



MONTGOMERY WATSON

January 10, 1997

Mr. Duane E. Heaton
Remedial Project Manager
Waste Management Division
77 W. Jackson Blvd. HSRL-6J
Chicago, Illinois 60604

Re: Transmittal - Technical Memorandum
Predesign Investigation
Blackwell Landfill Response Action

Dear Duane:

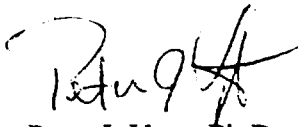
We have completed the Technical Memorandum for the Predesign Investigation conducted last fall at the Blackwell Forest Preserve NPL Site. Five copies are attached for your review. In addition, we are sending three copies of the report to Rick Lanham at Illinois EPA (IEPA).

We are also in the process of completing the 100 Percent Design of the Leachate Collection System. We would like to arrange a meeting at the convenience of you and Rick Lanham to discuss the findings in the attached report.

Please call me so that we can set up a date when the Forest Preserve District and Montgomery Watson can get together with U.S. EPA and IEPA.

Sincerely,

MONTGOMERY WATSON INC.


Peter J. Vagt, Ph.D.
Project Coordinator

cc: Rick Lanham, IEPA (3 copies)
Kurt Lindland, USEPA - Assistant Regional Counsel

dwh
C:\MSOFFICE\WINWORD\DUOBS\BWTO-DH.DOC
3920.0014



MONTGOMERY WATSON

January 10, 1997

Mr. Duane E. Heaton
Remedial Project Manager
Waste Management Division
77 W. Jackson Blvd. HSRL-6J
Chicago, Illinois 60604

Re: Transmittal - Technical Memorandum
Predesign Investigation
Blackwell Landfill Response Action

Dear Duane:

We have completed the Technical Memorandum for the Predesign Investigation conducted last fall at the Blackwell Forest Preserve NPL Site. Five copies are attached for your review. In addition, we are sending three copies of the report to Rick Lanham at Illinois EPA (IEPA).

We are also in the process of completing the 100 Percent Design of the Leachate Collection System. We would like to arrange a meeting at the convenience of you and Rick Lanham to discuss the findings in the attached report.

Please call me so that we can set up a date when the Forest Preserve District and Montgomery Watson can get together with U.S. EPA and IEPA.

Sincerely,

MONTGOMERY WATSON INC.

Peter J. Vagt, Ph.D.
Project Coordinator

cc: Rick Lanham, IEPA (3 copies)

dwh
C:\MSOFFICE\WINWORD\JOBS\BW\TO-DH.DOC
3920.0014

TECHNICAL MEMORANDUM PREDESIGN INVESTIGATION

BLACKWELL LANDFILL NPL SITE
DUPAGE COUNTY, ILLINOIS

JANUARY 1997

PREPARED FOR:
FOREST PRESERVE DISTRICT
DUPAGE COUNTY, ILLINOIS

• • •
PREPARED BY:
MONTGOMERY WATSON

PROJECT NO. 1252008



MONTGOMERY WATSON

TABLE OF CONTENTS

INTRODUCTION	1
SUMMARY OF FIELD ACTIVITIES	2
Activity 1 - Limits of Fill Investigation.....	2
Activity 2 - Cap Continuity/Characterization Investigation.....	3
Activity 3 - Arboreal Impact Assessments	4
Activity 4 - Monitoring Well Assessments.....	4
Activity 5 - Gas Vent Evaluation	7
SUMMARY AND RECOMMENDATIONS.....	8

LIST OF TABLES

Table 1	Limits of Fill Borehole Data
Table 2	Landfill Cover Thickness
Table 3	Summary of Grain Size Analysis Results
Table 4	Summary of Laboratory Permeability Results
Table 5	Monitoring Well Evaluation and Redevelopment Summary
Table 6	Monitoring Well Redevelopment
Table 7	Gas Vent Evaluation
Table 8	Leachate Elevation Data

LIST OF DRAWINGS

Figure 1	Limits of Fill Map
Figure 2	Cap Thickness and Permeabilities Map
Figure 3	Proposed Supplemental Test Borehole and Shelby Tube Sample Locations

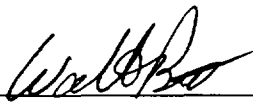
LIST OF APPENDICES

Appendix A	Boring Logs - Extent Of Fill
Appendix B	Boring Logs - Cap Continuity/Characterization
Appendix C	Geophysical Survey Results
Appendix D	Geotech Laboratory Results
	D1 Grain Size Results
	D2 Laboratory Permeability Results
Appendix E	Well Redevelopment Forms
Appendix F	Proposed Groundwater Monitoring Plan

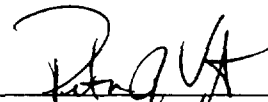
TECHNICAL MEMORANDUM PREDESIGN INVESTIGATION

BLACKWELL LANDFILL NPL SITE
DUPAGE COUNTY, ILLINOIS

JANUARY 1997



Walter Buettner
Supervising Engineer



Peter J. Vagt, Ph.D., CPG
Project Coordinator

TECHNICAL MEMORANDUM PREDESIGN INVESTIGATION BLACKWELL LANDFILL NPL SITE DUPAGE COUNTY, ILLINOIS

INTRODUCTION

This Technical Memorandum presents the results of the Predesign Investigation conducted between October 7 and October 30, 1996 at the Blackwell Landfill NPL site (landfill) in DuPage County, Illinois. The Predesign Investigation was conducted in accordance with the Design Work Plan (August 1996), which was approved by the U.S. EPA on August 23, 1996. The scope of the predesign investigation was outlined in the Statement of Work (SOW) (Appendix A to the Consent Order between the U.S. EPA and the DuPage County Forest Preserve District (FPD), U.S. EPA Docket No. V-W-'96-C-341, March 1, 1996), and included the following tasks:

- Limits of Fill Determination
- Cap Continuity/Characterization
- Arboreal Impact Investigation
- Monitoring Well Assessments
- Gas Vents Evaluation

However, the Arboreal Impact Investigation has not been performed to date due to scheduling difficulties, and the remaining investigations were not sufficient to collect all data necessary for future design submittals. Therefore, this Technical Memorandum reports the findings of the completed investigation, and recommends additional activities to complete the Predesign requirements.

This Technical Memorandum includes the following:

- A summary of field activities,
- Recommendations for additional cap characterization, and
- Recommendations for beginning the Groundwater Monitoring Plan.

SUMMARY OF FIELD ACTIVITIES

Activity 1 - Limits of Fill Investigation

The purpose of the Limits of Fill Investigation Activity was to delineate the lateral limits of waste around approximately half of the landfill. The southwest and extreme east sides of the landfill were excluded from the investigation because the approximate limits of waste have been previously established at these locations. The investigation was accomplished by performing a limited geophysical survey to determine the general waste boundary, followed by a test boring program to confirm waste limits. The geophysical survey was performed from October 7 through October 9, 1996, while the test boring program was performed from October 9 through October 15, 1996.

The results of the geophysical survey are presented in Appendix C. This information was immediately available in the field at the start of the drilling program, and was used to establish initial borehole locations at approximate 100-foot intervals around the landfill. Two to four borings were required at each boring interval to establish waste limits. Table 1 lists the test boring locations and identified waste elevations. Figure 1 provides the location of the test borings and the limits of waste. Appendix A contains the test boring logs for locations shown on the figure. The locations of each geophysical transect and boring were staked and surveyed by a licensed surveyor prior to the start of the investigation. Location coordinates were established to the local grid system, and grid elevations were referenced to Mean Sea Level (MSL).

Soil cuttings generated during the drilling program were compacted back into their respective borings. At least a one-foot thickness of bentonite was also compacted over waste, where encountered.

The investigation has modified the previously mapped limits of waste in three specific areas of the landfill. The first modified area is located in the northern portion of the landfill near boring TB23 where a triangular area was not previously thought to contain waste. The investigation determined that this triangular area does contain waste, with waste material encountered at depths ranging from 6 to 12 feet, as identified in borings TB33, TB23, and TB35. The second modified area is located between borings TB44 and TB58 where the new limits of waste have been moved 40 to 50 feet east (outward). Waste material was encountered at depths ranging from 5 to 7.5 feet, as identified in borings TB45, TB47, TB48, TB51, TB52, and TB55. The third modified area waste is located between borings TB57 and TB68 where the limits of waste have been moved 25 to 50 feet west (inward). This change in the limits of waste is based on test borings TB59, TB60, TB61, TB63, TB66, TB67, TB68, and TB69 where waste material was not encountered in the 8 to 10 foot deep borings.

Slight modifications to the limits of waste were also made at other locations within the remainder of the investigation area. However, these changes did not exceed a shift more than 20 feet inward or outward from the previously mapped limits of waste.

Waste material was not encountered in the boring section containing TB67, TB68, TB69, and TB70, despite these borings being extended to depths of 15 feet. It is possible that these borings did not extend deep enough to encounter the surface of the waste. Therefore, we recommend completing a deeper boring near TB68 (see Figure 3) to a maximum depth of 30 feet. If waste is encountered in this boring, additional deep borings will be drilled to confirm actual waste limits, as outlined in the Field Sampling Plan for Pre-Design Investigation Activities. If waste is not encountered, this boring will mark, for future design purposes, the outside edge of waste. We propose starting this activity in March 1997.

Activity 2 - Cap Continuity/Characterization Investigation

The objective of the Cap Continuity/Characterization Investigation was to identify areas of the landfill which do not contain a cover meeting the requirements of 35 IAC Part 807 (i.e., a minimum of 2 feet of suitable material). Shallow test borings were drilled into the landfill cap at selected locations with hollow-stem augers and cover thicknesses were measured. Selected soil samples were collected from these borings for analysis of grain size distribution and permeability. The investigation was performed from October 7, 1996 through October 17, 1996.

Test boring locations were based on a grid system with 200-foot centers. The grid system covered the entire area within the limits of waste, except for the southwest portion of the site where it has been previously documented that the cover thickness greatly exceeded 2 feet. However, additional boreholes were drilled at 100-foot grid centers where the cap thickness at the 200 foot grid locations were less than 2 feet (e.g. around TB1 and TB3). The location of each boring was staked and surveyed by a licensed surveyor prior to drilling. Location coordinates were established to the local grid system, and grid elevations were referenced to Mean Sea Level (MSL). Soil cuttings generated during the drilling program were compacted back into their respective borings. At least a one foot thickness of bentonite was also compacted over waste, where encountered.

The resultant landfill cover thickness data is summarized in Table 2 and Figure 2, with boring logs presented in Appendix B. Cover thickness data from 9 extraction wells installed at the Blackwell Landfill during May and June 1996 are also summarized in Table 2 with locations presented on Figure 2.

The boring information indicates that, except for two discontinuous areas, the landfill cover meets, or exceeds, the minimum 2 foot thickness requirement of 35 IAC Part 807. The two exceptions are located in the northwest corner of the landfill around TB3A, and around TB3C, EW01 and EW1A (see Figure 2).

Shelby tubes samplers were used in attempts to collect suitable samples of undisturbed cap material for permeability testing. However, suitable samples could not be obtained at several borehole locations, even after numerous attempts, due to sampling difficulties (e.g. Shelby tube sampler striking stones). Furthermore, some collected samples were judged by the testing laboratory to be unsuitable for permeability testing due to excessive sample disturbance, or the inability to saturate the sample.

The available grain size distribution and permeability test results are summarized in Tables 3 and 4, and the laboratory data sheets are compiled in Appendix D. Permeability results are also summarized in Figure 2. These data indicate that the landfill cap is comprised of silty clay (USCS classification CL), with some clayey silt (USCS classification ML). These materials are considered suitable as landfill cover material.

While the extent of the landfill cap meeting the thickness requirements of 35 IAC Part 807 has been identified, data gaps for permeability and/or grain size distribution exist at 15 borehole locations (TB1, TB1B, TB3, TB3B, TB3D, TB4, TB5, TB7, TB9, TB10, TB11, TB14, TB16, TB17 and TB19). We recommend that representative samples be obtained at these locations (see Figure 3) to complete the cover material characterization. In addition, the permeability data at borehole TB2 suggests that the cover material is suitable, although marginally adequate. Therefore, we propose to re-sample this location for confirmatory permeability testing. The Shelby tube samples will be collected from either a test boring, or a shallow test pit. Excavating a shallow test pit at some locations will allow visual inspection of the landfill cap to identify potentially suitable sampling locations. If we are unable to collect undisturbed soil samples with the Shelby tube sampler, we will instead collect undisturbed block samples which will undergo laboratory triaxial permeability testing. We proposed starting this activity in March 1997.

Activity 3 - Arboreal Impact Assessments

The Arboreal Impact Assessment is intended to determine the distribution and depth of existing tree and woody vegetation root systems on the landfill. However, this assessment has not been performed to date due to scheduling difficulties late in the fall, and we have re-scheduled it to start during Spring 1997.

Activity 4 - Monitoring Well Assessments

The objective of the Monitoring Well Assessment activity was to confirm the integrity of existing monitoring wells, and to aid in the identification of unnecessary monitoring wells and piezometers. The integrity survey was intended to be completed on monitoring wells numbered G-100 through G-120, inclusive, and those wells proposed for inclusion in the quarterly groundwater monitoring program. As well, it was intended that each well be redeveloped. However, due to the extraneous nature of some development data (i.e., some wells will be proposed for abandonment) and the excessive amounts of water which would have been generated (i.e., most of the wells had 4 inch diameter casings), the FPD elected to undertake redevelopment only on those wells initially proposed for inclusion in the quarterly groundwater monitoring program. If required, additional monitoring wells may be redeveloped, if they are added to any future detection or compliance groundwater monitoring program.

The integrity survey was conducted from October 23 through October 29, 1996, and included inspections to determine if wells were structurally sound, had adequate protection and were capable of providing representative groundwater quality data. Photographs were taken at each well location, and weep holes were drilled in the well casing, if adequate

drainage did not exist. The results of the survey are summarized in Tables 5 and 6, with well development summaries provided in Appendix E. Photographs are filed in Montgomery Watson's project files.

The well integrity survey indicated that the majority of the monitoring wells were structurally intact and secure. The exceptions are noted below:

- Two monitoring wells (G104 and G106) appear to have filter pack sand in the bottom of the wells, indicating possible damage to the well screen or well pipe joint.
- Eight monitoring wells (G100A, G100B, G106, G108, G114A, G119, G121 and G136) have missing or damaged locks, or damaged protective casings with rusted-off or broken lid hinges.
- One monitoring well (G114A) has a cracked and heaved surface seal.

The redevelopment efforts on those wells initially proposed for inclusion in the quarterly groundwater program were generally successful, with indicator parameters stabilizing during redevelopment. Purge water was contained on-site and was later disposed of by the FPD under their leachate disposal permit. However, monitoring well G136 was purged dry after removing approximately one and a half well volumes, with recharge measured at 1 foot recovery in 3 minutes.

The groundwater monitoring network at the landfill was reviewed to identify monitoring wells and piezometers which could be abandoned or retired from future use. Rational for possible abandonment or retirement included; 1) damaged or missing locks, damaged protective casings with rusted-off or broken lid hinges, or insecure surface seals, any of which would require major effort to maintain integrity, 2) screened intervals located within a till aquitard instead of a groundwater aquifer, and 3) wells that are duplicates of nearby wells. A list of the identified wells and piezometers is provided below:

Wells and Piezometers Proposed For Abandonment or Retirement	
Shallow Wells/Piezometers	
P1	Screened within till aquitard outside the edge of the shallow aquifer.
P4	Screened within till aquitard outside the edge of the shallow aquifer.
G100	Screened within till aquitard outside the edge of the shallow aquifer.
G100AB	Missing lock. Duplicate of G100.
G101	Screened within till aquitard outside the edge of the shallow aquifer.
G102	Screened within till aquitard outside the edge of the shallow aquifer.
G103S	Screened within till aquitard outside the edge of the shallow aquifer.
G104	Possible damaged well screen. Screened within till aquitard outside the edge of the shallow aquifer.

Wells and Piezometers Proposed For Abandonment or Retirement (cont'd)	
Shallow Wells/Piezometers	
G105	Screened within till aquitard outside the edge of the shallow aquifer.
G105ABC	One inch diameter piezometers located in a single borehole. Replaced by G105.
G106	Screened within till aquitard outside the edge of the shallow aquifer. Possible damaged well screen. Missing lock.
G108	Duplicate of G107S and G121. Damaged lock.
G109	Duplicate of G107S and G126.
G110	Duplicate of G126 and G127.
G111	Duplicate of G117 and G127.
G112	Duplicate of G114 and G117.
G113	Duplicate of G114.
G114A	Missing lock. Cracked seal seal.
G115S	Duplicate of G129.
G116	Water level is not representative of groundwater flow conditions.
G118D	Screened within till aquitard.
G119	Screened within till aquitard outside the edge of the shallow aquifer. Damaged lock.
G124	Screened within till aquitard outside the edge of the shallow aquifer.
G125	Screened within till aquitard outside the edge of the shallow aquifer.
G128S	Duplicate of G117 and G123.
G128I	Duplicate of G128S.
G140S	Duplicate of G127.
Deep Wells/Piezometers	
G103D	Screened within till aquitard.
G107D	Screened within till aquitard.
G115D	Screened within till aquitard.
G120S	Screened within till aquitard.
G120D	Screened within till aquitard.
G131DD	Duplicate of G131D.
G132DD	Duplicate of G132D.
G133DD	Duplicate of G133D.
G136	Water level not representative of groundwater conditions. Well was pumped dry during redevelopment activities indicating that the well is apparently screened in crystalline rock with limited fractures. Rusted-off lid on protective casing.

The remaining wells in the groundwater monitoring network were also reviewed to identify those wells which should be included in the future quarterly groundwater monitoring program as detection monitoring wells, compliance monitoring wells, and water level wells. The resulting proposed monitoring program is summarized below.

Wells Proposed For The Quarterly Groundwater Monitoring Program	
Detection Monitoring Wells	
Shallow Wells G107S, G117, G123, G126, G127, G129	Deep Wells G128D, G135, G140D, G141D
Compliance Monitoring Wells	
Shallow Wells G122, G133S	Deep Wells G133D, G138, G139
Water Level Wells	
Shallow Wells P2, P3, G114, G118S, G121, G130S	Deep Wells G131D, G132D, G134, G137

Monitoring wells G121 and G136 were initially proposed as a detection or compliance wells for the quarterly groundwater monitoring program. However, the well integrity survey identified that both these wells may have lost integrity due to broken or rusted-off protective casing lids. As well, a review indicated that water levels in well G136 were not representative of groundwater conditions, and that the well could be pumped dry during development. This suggests that G136 may be screened in crystalline rock with limited fractures. Therefore, wells G107S and G135, respectively, are proposed as alternative detection or compliance wells, with G121 still being proposed as a water level well.

The well integrity survey and/or well redevelopment has not been performed on 9 monitoring wells proposed for inclusion in the quarterly groundwater monitoring program (i.e., P2, P3, G130S, G131D, G132D, G134, and G137 proposed for water levels, and G107S and G135 proposed as detection monitoring wells). As well, during previous well redevelopment efforts, high and potentially inaccurate pH values were measured at well G121, and pH and specific conductivity could not be measured at G127 due to equipment malfunctions. Therefore, we recommend that the well integrity survey be conducted at 8 of these wells (i.e., P2, P3, G130S, G131D, G132D, G134, G135 and G137), and that 4 wells be re-developed for measurement of indicator parameters (i.e., G107S, G121, G127 and G135). We recommend these activities be scheduled for March 1997, with the first round of the quarterly monitoring program beginning immediately thereafter. Proposed details of the program are outlined in Appendix F.

Activity 5 - Gas Vent Evaluation

The objective of the landfill gas vent evaluation was to evaluate the condition of 30 existing landfill gas vents, and to measure gas quality, if possible. The evaluation consisted of measuring vent depths, leachate head levels and landfill gas composition, and observing the condition of the surface vent/riser. The evaluation was performed on October 21 and 22, 1996.

Gas measurements and monitoring data obtained during the gas vent evaluation are presented in Table 7, while leachate head elevation data for 1996 are presented in Table 8. These tables indicate that liquid depths measured in the vents ranged from 6.52 to 72.80 feet below the top of the vent casing pipe. These values may represent either actual leachate head levels or perched liquids. Landfill gas composition readings were measured at each vent's discharged with a portable gas monitoring instrument. Methane was detected at all but four of the gas vents at concentrations ranging from 1.0 % to 73.5%, by volume. Carbon dioxide levels ranged from zero to 43.0%, by volume, while oxygen concentrations ranged from zero to 20.2%, by volume. Gas pressures ranged from non-measurable to 29.1 inches of mercury. The evaluation also noted that gas vent DV-7 was obstructed at a depth of 87 feet.

The future of the existing gas vents will be discussed, in greater detail, as part of the future O&M plan for the leachate collection system (LCS). The draft O&M Plan is scheduled to be prepared during the construction of the LCS.

SUMMARY AND RECOMMENDATIONS

The predesign investigation activities completed to date have collected suitable information for future design submittals. However, the investigation did not collect all required information for determining the limits of waste, characterizing the landfill cap, and assessing landfill vegetation. Therefore, we recommend scheduling the following investigative activities for Spring 1997:

- Drilling an additional deep boring near TB68 to identify the limits of waste in this area,
- Collecting 16 additional undisturbed soil samples of the landfill cover for grain size distribution and permeability testing, to complete the characterization of the landfill cap,
- Performing the well integrity survey on 8 additional monitoring wells and piezometers, with 4 wells also being redeveloped, and
- Re-scheduling the Arboreal Impact Assessment.

We recommend implementing the first round of the groundwater monitoring program in spring 1997, as outlined in Appendix F. The review of the existing groundwater monitoring network identified wells and piezometers that would not provide meaningful longterm data or were duplicative. Therefore, we recommend abandoning or retiring 36 existing wells and piezometers.

TJK/vlr/DWH/WGB/PJV
JA1252\008\04\WP\RPT99_TEXT.DOC
1252008.0409.0056-MD
3920.0056-MD

TABLE 1

**Limits of Fill Borehole Data
Blackwell Landfill NPL Site
DuPage County, Illinois**

Borehole	Location Coordinates (ft)		Ground Surface Elevation (ft-MSL)	Total Depth of Borehole (ft)	Surface of Waste Elevation (ft-MSL)
	Northing	Easting			
TB22	1298.87	-1291.16	728.40	8.0	--
TB23	1278.09	-1277.30	728.23	8.0	721.23
TB24	1343.11	-1086.10	721.77	15.0	716.77
TB25	1326.23	-1082.61	722.58	5.0	718.08
TB26	1158.86	-1434.96	737.03	6.5	732.03
TB27	1194.17	-1467.46	745.15	15.0	--
TB28	978.04	-1444.40	745.60	10.0	736.10
TB29	972.75	-1465.84	749.61	15.0	735.11
TB30	965.34	-1478.39	748.30	14.5	--
TB31	1077.69	-1511.20	744.32	12.0	733.32
TB32	1078.37	-1538.10	742.25	13.0	--
TB33	1246.80	-1381.23	735.36	13.0	723.36
TB34	1260.63	-1391.67	733.12	12.0	--
TB35	1332.40	-1207.83	721.58	7.0	715.58
TB36	1352.76	-1204.93	719.45	8.0	--
TB37	1364.26	-889.36	723.98	13.0	--
TB38	1344.81	-885.45	724.55	4.0	--
TB39	1355.71	-994.69	723.54	12.0	--
TB40	1333.03	-993.68	724.69	3.5	721.69
TB41	1292.47	-805.76	726.80	8.0	723.80
TB42	1283.16	-827.01	727.27	4.0	723.77
TB43	1184.35	-815.47	729.55	8.0	--
TB44	1182.62	-839.17	728.37	5.0	723.87
TB45	1074.02	-834.27	730.72	8.0	725.72
TB46	1065.12	-815.38	731.33	8.0	--
TB47	981.18	-914.33	731.00	8.0	723.50
TB48	956.88	-868.44	730.90	8.0	723.40
TB49	945.60	-848.88	730.59	8.0	--
TB50	926.80	-861.29	731.35	8.0	--
TB51	913.49	-882.50	731.76	7.0	725.26
TB52	884.99	-807.70	729.40	5.5	724.40
TB53	904.59	-794.69	728.42	8.5	--
TB54	816.45	-730.10	734.51	9.0	--
TB55	794.46	-737.94	733.08	8.0	725.58
TB56	764.42	-641.81	733.71	8.0	--
TB57	741.71	-647.23	734.12	9.0	--
TB58	720.55	-662.22	734.48	9.0	--
TB59	721.88	-543.48	734.17	8.0	--
TB60	706.51	-556.65	734.53	8.0	--
TB61	678.27	-569.35	736.45	9.5	--
TB62	659.78	-582.24	740.00	12.0	728.50
TB63	641.64	-474.73	735.70	8.0	--
TB64	622.19	-486.79	739.27	15.0	726.27
TB65	595.97	-387.06	735.04	10.0	727.04
TB66	616.64	-378.25	734.35	8.0	--

TABLE 1

**Limits of Fill Borehole Data
Blackwell Landfill NPL Site
DuPage County, Illinois**

Borehole	Location Coordinates (ft)		Ground Surface Elevation (ft-MSL)	Total Depth of Borehole (ft)	Surface of Waste Elevation (ft-MSL)
	Northing	Easting			
TB67	577.52	-283.65	731.69	8.0	--
TB68	547.07	-300.28	734.58	10.0	--
TB69	523.13	-312.24	737.40	12.0	--
TB70	501.40	-319.33	739.29	16.0	--
TB71	526.20	-200.78	730.56	10.0	--
TB72	502.18	-218.36	734.39	17.0	--
TB72A	502.18	-218.36	734.39	23.0	--
TB73	471.32	-249.94	740.06	25.0	716.06
TB74	444.69	-161.74	734.65	23.0	713.65
TB75	416.69	-177.39	739.89	24.5	715.89
TB76	65.40	-255.38	729.09	13.0	--
TB77	87.66	-246.79	732.40	11.0	721.90
TB78	50.10	-341.23	727.72	12.0	--
TB79	73.32	-341.87	729.88	7.5	722.88
TB80	75.95	-136.19	729.07	11.0	--
TB81	90.51	-143.48	730.10	9.0	--
TB82	49.44	-450.54	726.00	13.0	--
TB83	72.08	-450.92	727.55	7.5	720.55
TB84	53.17	-529.43	724.64	12.0	--
TB85	77.14	-531.62	727.92	8.0	720.42

NOTE

-- = Waste was not encountered in boring.

TABLE 2

**Landfill Cover Thickness
Blackwell Landfill NPL Site
DuPage County, Illinois**

Borehole Location	Location Coordinates (ft)		Ground Surface Elevation (ft-MSL)	Thickness of Cover (ft)
	Northing	Easting		
EW01	859.50	-1295.71	753.45	0.6
EW01A	864.33	-1241.38	751.83	0.5
EW02	580.68	-1260.68	792.43	20
EW03	598.29	-954.78	769.75	9.5
EW04	329.97	-1307.69	836.93	63
EW05	333.41	-1037.02	809.23	28
EW06	224.30	-772.20	760.03	11
EW07	457.25	-612.85	772.94	9
EW08	328.74	-301.08	754.05	12.5
TB01	1181.10	-1358.30	735.50	2
TB01A	1215.03	-1265.30	730.73	>6
TB01B	1137.49	-1445.72	737.46	2.7*
TB02	1180.20	-957.60	729.20	3.3*
TB03	981.30	-1357.40	739.60	5.7
TB03A	1079.96	-1385.60	741.22	0.50
TB03B	987.82	-1248.37	744.86	2.50
TB03C	880.57	-1349.13	750.64	0.9
TB03D	931.55	-1421.62	748.12	2.6*
TB04	980.40	-1157.50	741.70	2*
TB05	978.60	-957.60	732.50	>6
TB06	780.60	-1357.90	756.00	2.4*
TB07	780.60	-958.50	759.10	2.2*
TB08	579.00	-957.60	750.60	3.5*
TB09	579.00	-957.60	770.30	>6
TB10	579.90	-756.80	753.10	>8
TB10A	579.90	-756.80	753.10	>7
TB11	580.80	-557.80	754.40	>6
TB12	580.80	-358.80	734.70	>10
TB13	378.60	-957.80	793.50	>8
TB14	381.00	-757.70	777.00	4*
TB15	381.90	-557.80	764.90	>10
TB16	381.90	-357.90	751.70	>6
TB17	180.60	-757.90	753.80	>4
TB18	180.30	-556.90	749.30	>6
TB19	181.20	-357.90	746.60	>3*
TB20	180.30	-158.10	740.00	>8
TB21	1318.93	-1301.24	729.64	OFA
TB22	1298.87	-1291.16	728.40	OFA
TB23	1278.09	-1277.30	728.23	2
TB24	1343.11	-1086.10	721.77	OFA
TB25	1326.23	-1082.61	722.58	4.5
TB26	1158.86	-1434.96	737.03	0
TB27	1194.17	-1467.46	745.15	OFA
TB28	978.04	-1444.40	745.60	1

TABLE 2

**Landfill Cover Thickness
Blackwell Landfill NPL Site
DuPage County, Illinois**

Borehole Location	Location Coordinates (ft)		Ground Surface Elevation (ft-MSL)	Thickness of Cover (ft)
	Northing	Easting		
TB29	972.75	-1465.84	749.61	2.5
TB30	965.34	-1478.39	748.30	>6.5
TB31	1077.69	-1511.20	744.32	<2
TB32	1078.37	-1538.10	742.25	OFA
TB33	1246.80	-1381.23	735.36	3*
TB34	1260.63	-1391.67	733.12	>2
TB35	1332.40	-1207.83	721.58	<2
TB36	1352.76	-1204.93	719.45	OFA
TB37	1364.26	-889.36	723.98	OFA
TB38	1344.81	-885.45	724.55	4
TB39	1355.71	-994.69	723.54	OFA
TB40	1333.03	-993.68	724.69	3
TB41	1292.47	-805.76	726.80	3
TB42	1283.16	-827.01	727.27	3.50
TB43	1184.35	-815.47	729.55	OFA
TB44	1182.62	-839.17	728.37	4.5
TB45	1074.02	-834.27	730.72	3.5
TB46	1065.12	-815.38	731.33	OFA
TB47	981.18	-914.33	731.00	3*
TB48	956.88	-868.44	730.90	4.5
TB49	945.60	-848.88	730.59	OFA
TB50	926.80	-861.29	731.35	OFA
TB51	913.49	-882.50	731.76	6.5
TB52	884.99	-807.70	729.40	2
TB53	904.59	-794.69	728.42	OFA
TB54	816.45	-730.10	734.51	OFA
TB55	794.46	-737.94	733.08	2.5*
TB56	764.42	-641.81	733.71	OFA
TB57	741.71	-647.23	734.12	OFA
TB58	720.55	-662.22	734.48	>4
TB59	721.88	-543.48	734.17	OFA
TB60	706.51	-556.65	734.53	OFA
TB61	678.27	-569.35	736.45	OFA
TB62	659.78	-582.24	740.00	6*
TB63	641.64	-474.73	735.70	OFA
TB64	622.19	-486.79	739.27	7.5
TB65	595.97	-387.06	735.04	4*
TB66	616.64	-378.25	734.35	OFA
TB67	577.52	-283.65	731.69	OFA
TB68	547.07	-300.28	734.58	OFA
TB69	523.13	-312.24	737.40	4.5*
TB70	501.40	-319.33	739.29	>16
TB71	526.20	-200.78	730.56	OFA
TB72	502.18	-218.36	734.39	OFA

TABLE 2

**Landfill Cover Thickness
Blackwell Landfill NPL Site
DuPage County, Illinois**

Borehole Location	Location Coordinates (ft)		Ground Surface Elevation (ft-MSL)	Thickness of Cover (ft)
	Northing	Easting		
TB72A	502.18	-218.36	734.39	OFA
TB73	471.32	-249.94	740.06	11*
TB74	444.69	-161.74	734.65	OFA
TB75	416.69	-177.39	739.89	14*
TB76	65.40	-255.38	729.09	OFA
TB77	87.66	-246.79	732.40	5.5*
TB78	50.10	-341.23	727.72	OFA
TB79	73.32	-341.87	729.88	3.5*
TB80	75.95	-136.19	729.07	OFA
TB81	90.51	-143.48	730.10	6.5*
TB82	49.44	-450.54	726.00	OFA
TB83	72.08	-450.92	727.55	4.5*
TB84	53.17	-529.43	724.64	OFA
TB85	77.14	-531.62	727.92	1.5*

Notes:

Datum is Mean Seal Level (MSL)

NA = Not Applicable

OFA = Outside of Fill Area

* = Additional low permeability material present above or below unit specified

Table 3
Summary of Grain Size Analysis Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Borehole Number	Split-Spoon Sample Number	Sample Depth (ft)	Grain Size Distribution				USCS Classification
			% Gravel	% Sand	% Silt	% Clay	
TB1A	2	2-4	5	29	36	30	CL
TB2	2	2-4	2	11	40	47	CL
TB3D	5	8-10	15	33	39	13	ML
TB4	2	2-4	0	10	42	48	CL
TB5	2	2-4	1	6	56	37	CL
TB6	4	6-8	11	26	35	28	CL
TB7	2	2-4	4	20	41	35	CL
TB8	3	4-6	0	19	30	51	CL
TB9	2	2-4	7	32	39	22	CL
TB10	2	2-4	23	14	28	35	CL
TB11	3	4-6	5	19	37	39	CL
TB12	4	6-8	5	20	42	33	CL
TB13	4	6-8	10	28	35	27	CL
TB14	7	12-14	9	36	38	17	ML
TB15	4	6-8	7	34	39	20	CL
TB16	2	2-4	1	15	27	57	CL
TB17	2	2-4	8	28	33	31	CL
TB18	2	2-4	16	18	36	30	CL
TB19	8	14-16	7	25	35	33	CL
TB20	4	6-8	8	31	44	17	ML

Table 4
Summary of Laboratory Permeability Results
Blackwell Landfill NPL Site
DuPage County, Illinois

Sample Number	Sample Depth (Feet)	Permeability Test Result (cm/sec)
TB1A	3	4.60E-08
TB2	3.5	NP
TB2D	3	8.90E-05
TB4	4.5	NS
TB4B	12	8.10E-07
TB6	8	NP
TB6B	8.5	1.50E-07
TB8	6.5	2.20E-08
TB10	4.5	NP
TB10E	10	NP
TB12A	18	6.20E-08
TB13	8	2.00E-07
TB13C	5	3.00E-05
TB15	7.5	2.40E-08
TB15A	8	1.80E-07
TB18	4	6.50E-06
TB18B	7	4.00E-08
TB20	7	NP
TB20D	8	3.90E-07

NOTES:

NS = Sample did not saturate, maximum pressure attempted

NP = Not possible, disturbed, cracked, dessicated sample,
or gravel interference

Table 5
Monitoring Well Evaluation
October 21 - 30, 1996
Blackwell Landfill NPL Site
Dupage County, Illinois

Well Number	Location Coordinates (ft)		Well Diameter (inches)	Screen Length (ft)	Screen Type	TOIC Elevation (ft-MSL)	Water Level (ft)	Water Elevation (ft-MSL)	Total Depth (ft)	Aquifer Type	Locked and Secure	Protective Casing	Material Between Casings	Surface Seal Defects	Well Casing Vent Hole	Kinking or Obstructions	Additional Comments
	Northings	Eastings															
G100			4		PVC		14.80		18.00		Yes	O.K.	None	Weak ⁽²⁾	Yes	None	Dedicated Bailer - Bottom 2 ft coated black
G100A			2		PVC		12.65		17.80		No	O.K.	None	Weak ⁽²⁾	Yes	None	No Bailer
G100B			2		PVC		13.00		35.50		No	O.K.	None	Weak ⁽²⁾	Yes	None	No Bailer
G101			4		PVC		5.70		13.20		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G102			4		PVC		19.55		26.95		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G103S			4		PVC		15.44		44.20		Yes	O.K.	None	None	Yes	None	Dedicated Bailer - Hornets nest in cover ⁽⁴⁾
G103D			4		PVC		18.75		64.30		Yes	O.K.	None	None	Yes	None	No bailer
G104			4		PVC		21.40		22.30		Yes	O.K.	None	None	Yes	None	Dedicated Bailer - 2 ft coated black with sand
G105			4		PVC		22.10		24.00		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G105A			3		PVC		21.90		24.30		Yes	O.K.	Sand	None	Yes	None	All 3 wells in one Protective Casing
G105B			3		PVC		22.12		39.30		Yes	O.K.	Sand	None	Yes	None	All 3 wells in one Protective Casing
G105C			3		PVC		24.10		63.00		Yes	O.K.	Sand	None	Yes	None	All 3 wells in one Protective Casing
G106			4		PVC		12.85		14.40		No	O.K.	None	None	Yes	None	Dedicated Bailer - filter pack sand in well
G107S			4		PVC		15.12		40.40		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G107D			4		PVC		15.54		49.00		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G108			4		PVC		7.76		14.00		No ⁽¹⁾	O.K.	None	None	Yes	None	Dedicated Bailer
G109			4		PVC		13.50		21.20		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G110			4		PVC		15.05		16.90		Yes	O.K.	None	None	Yes	None	Dedicated Bailer - Bottom 2 ft coated black
G111			4		PVC		16.40		23.00		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G112			4		PVC		15.70		21.00		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G113			4		PVC		15.18		21.30		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G114			4		PVC		16.50		30.00		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G114A			2		PVC		15.80		20.70		No	O.K.	None	Cracked	Yes	None	No Bailer
G115S			4		PVC		14.85		20.10		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G115D			4		PVC		14.95		50.25		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G116			4		PVC		15.78		47.00		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G-117	-296.30	-1629.70	4	10.0	PVC	707.37	14.92	692.45	30.00	Glacial Outw.	Yes	O.K.	None	None	Yes	None	No Bailer
G118A			1		PVC		9.12		18.10		Yes	O.K.	None	None	Yes	None	No Bailer - Covered by manhole
G118S			4		PVC		17.90		22.90		Yes	O.K.	None	Weak ⁽²⁾	Yes	None	Dedicated Bailer
G118D			4		PVC		18.45		9.12		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G119A			4		PVC		15.90		20.10		No ⁽¹⁾	O.K.	None	None	Yes	None	Dedicated Bailer
G120S			4		PVC		33.40		60.20		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G120D			4		PVC		36.85		86.50		Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G-121	-568.10	-722.30	4	5.0	PVC	703.69	11.62	692.07	20.60	Glacial Outw.	No ⁽³⁾	O.K.	None	None	Yes	None	No Bailer
G-122	-689.70	-1563.40	4	5.0	PVC	706.44	14.44	692.00	25.60	Glacial Outw.	Yes	O.K.	None	None	Yes	None	Dedicated Bailer
G-123	-137.90	-1891.80	4	5.0	PVC	707.69	15.30	692.39	22.00	Glacial Outw.	Yes	O.K.	None	None	Yes	None	No Bailer - Hornets nest in well ⁽⁴⁾
G-126	-256.39	-1117.51	4	10.0	PVC	704.45	12.36	692.09	19.30	Glacial Outw.	Yes	O.K.	None	None	Yes	None	No Bailer
G-127	-304.79	-1404.97	4	10.0	PVC	706.56	14.60	691.96	20.90	Glacial Outw.	Yes	O.K.	None	None	Yes	None	No Bailer
G-128D	-188.07	-1716.33	4	10.0	PVC	707.37	15.49	691.88	56.40	Dol. Bedrock	Yes	O.K.	None	Weak ⁽²⁾	Yes	None	No Bailer
G-129	169.58	-2035.18	4	10.0	PVC	702.56	9.90	692.66	19.20	Glacial Outw.	Yes	O.K.	None	None	Yes	None	No Bailer
G-133S	-614.50	-2089.70	4	10.0	PVC	707.56	15.74	691.82	23.00	Glacial Outw.	Yes	O.K.	None	None	Yes	None	No Bailer
G-133D	-626.90	-2077.40	4	None	None	707.84	16.20	691.64	54.00	Dol. Bedrock	Yes	O.K.	None	None	Yes	None	No Bailer
G-136	790.10	-1746.90	4	None	None	710.23	17.42	692.81	102.80	Dol. Bedrock	No ⁽³⁾	O.K.	None	None	Yes	None	No Bailer
G-138	-254.50	-249.20	4	10	PVC	708.69	16.83	691.86	56.20	Dol. Bedrock	Yes	O.K.	None	None	Yes	None	No Bailer
G-139	540.30	-512.80	4	10	PVC	702.06	10.15	691.91	57.50	Dol. Bedrock	Yes	O.K.	None	None	Yes	None	No Bailer
G-140D	413445.00	1246728.00	2	10.6	SS	705.55	13.66	691.89	60.70	Dol. Bedrock	Yes	O.K.	Sand	None	Yes	None	No Bailer
G-141D	413456.00	1246740.00	2	10.3	SS	708.15	16.41	691.74	63.80	Dol. Bedrock	Yes	O.K.	Sand	None	Yes	None	No Bailer

Notes:

- (1) Existing lock will not lock
- (2) Slight heave of surface seal
- (3) Protective casing hinge broken
- (4) Insect spray used to remove hornet nests.
- SS = Stainless steel well screen
- PVC = Poly vinylchloride well screen
- Elevation (msl) = Mean Sea Level

Table 6
Monitoring Well Redevelopment
Detection and Compliance Monitoring Wells
October 21 - 30, 1996
Blackwell Landfill NPL Site
Dupage County, Illinois

DETECTION MONITORING WELLS

Well Number	Well Development Field Parameters						
	Well Volume	Volume Purged	pH	Specific Conduct. (umhos/cm)	Temp. Degree C	D.O. (mg/l)	Turbidity (NTU)
G-117	24.4 Gal.	240 Gal.	7.54	574	12.50	2.13	0.02
G-121	16.4 Gal.	110 Gal.	12.6	545	14.00	1.60	8.90
G-123	12.3 Gal.	85 Gal.	9.51	601	14.00	2.12	2.20
G-126	12.7 Gal.	70 Gal.	6.79	1120	14.00	1.48	Clear
G-127	11.5 Gal.	70 Gal.	**	**	13.10	1.60	2.80
G-128D	40.6 Gal.	240 Gal.	8.76	730	12.40	2.04	10.10
G-129	17.90 Gal.	120 Gal.	7.35	800	12.30	2.86	56*
G-136	62.8 Gal.	82 Gal.	9.80	540	11.60	1.77	43*
G-140D	11 Gal.	60 Gal.	6.95	950	11.10	1.20	Clear
G-141D	16 Gal.	85 Gal.	8.44	684	12.20	1.14	0.19

COMPLIANCE MONITORING WELLS

Well Number	Well Development Field Parameters						
	Well Volume	Volume Purged	pH	Specific Conduct. (umhos/cm)	Temp. Degree C	D.O. (mg/l)	Turbidity (NTU)
G-122	20.4 Gal.	120 Gal.	6.90	835	13.30	1.20	Clear
G-133S	13.3 Gal.	75 Gal.	7.10	1080	12.90	1.50	Clear
G-133D	38.5 Gal.	210 Gal.	7.00	875	12.00	0.70	Clear
G-138	39.5 Gal.	175 Gal.	7.05	1025	11.20	2.60	2.46
G-139	44.6 Gal.	200 Gal.	7.55	717	10.80	4.40	3.98

Notes:

Monitoring Wells G-133D and G-136 do not have well screens.

PVC riser pipe is set into bedrock with an open borehole in bedrock for well screen.

D.O. = Dissolved Oxygen

* = Turbidity nits (NTU) 10 times scale factor

** = Equipment malfunction

Table 7
Gas Vent Evaluation
Blackwell Landfill NPL Site
October 21 and 22, 1996
Dupage County, Illinois

Vent Number	TOC Elevation (ft-MSL)	Initial (GS) Well Depth (ft)	Measured Well Depth (ft)	Depth to Liquid (ft)	Liquid Level (ft-MSL)	Gas Readings			Pressure Inches Hg	Notes/Comments
						% O2	% CH4	% CO2		
SV-1	740.77	18.5	16.00	6.52	734.25	19.6	1.1	0.2	NC	
SV-2	761.80	52.5	53.25	42.40	719.40	0.0	65.0	36.3	NC	
SV-3	774.66	15.0	14.95	12.16	722.50	18.0	7.8	2.4	NC	
SV-4	744.06	27.0	27.15	NL	Dry	0.2	61.1	41.9	NC	No leachate measured in well
SV-5	728.61	28.0	27.00	12.75	715.86	0.0	58.5	43.0	NC	
SV-6	762.57	48.0	45.70	29.80	732.77	3.5	50.5	30.5	NC	
SV-7	783.44	63.0	64.70	53.60	729.84	0.0	64.2	36.6	NC	
SV-8	726.06	23.0	25.20	15.20	710.86	0.0	63.6	40.0	NC	
SV-9	750.66	48.0	50.00	39.55	711.11	0.0	63.2	40.9	NC	
SV-10	753.96	63.0	64.50	61.10	692.86	0.0	66.4	34.1	NC	
SV-11	810.43	95.0	91.40	72.80	737.63	0.0	61.9	42.4	NC	
SV-12	827.37	87.0	83.80	65.20	762.17	3.1	47.2	24.7	NC	
DV-1	**	125.0	NM	NM	NM	0.0	63.9	34.8	NC	Couldn't open flushmount. Gas readings from RV19
DV-2	756.34	24.0	24.40	8.75	747.59	20.0	0.0	0.0	NC	
DV-3	750.75	42.5	36.75	15.48	735.27	20.2	0.0	0.1	NC	
DV-4	725.61	27.5	27.10	24.80	700.81	16.8	1.0	2.6	NC	
DV-5	721.92	28.5	29.00	25.37	696.55	0.0	64.4	35.5	NC	
DV-6	779.96	74.0	68.25	55.20	724.76	0.0	64.5	34.5	NC	
DV-7	833.94	130.0	86.90	NL	NL	0.0	63.8	37.0	NC	Tape wouldn't go past measured depth
DV-8	732.59	26.0	27.60	10.20	722.39	11.4	25.2	19.1	NC	
DV-9	726.97	21.0	22.40	11.78	715.19	9.0	33.5	24.0	NC	
DV-10	768.61	71.0	67.40	32.64	735.97	9.2	32.1	21.6	NC	
DV-11	756.72	36.5	34.75	9.43	747.29	20.1	0.0	0.0	NC	
DV-12	731.25	36.6	38.20	30.87	700.38	20.2	0.0	0.1	NC	
DV-13	748.60	53.0	53.60	35.97	712.63	0.0	65.9	37.0	NC	
DV-14	740.80	33.0	33.10	24.10	716.70	19.6	2.1	1.0	NC	
DV-15	738.96	NA	43.00	40.35	698.61	0.0	63.2	32.6	NC	
DV-16	735.54	NA	34.00	NL	Dry	0.0	63.9	38.9	NC	
DV-17	731.89	NA	37.20	23.73	708.16	0.0	61.9	39.2	NC	
DV-18	773.34	NA	54.20	45.40	727.94	0.0	64.0	36.0	NC	
EW-1	751.64	45.0	43.85	36.80	714.84	0.5	63.4	39.5	28.7	Initial well depths are based on well construction data, and are measured from ground surface. measured well depths and liquid levels are taken from the current TOC elevation which is below ground surface, within the vaults. The TOC elevation is the current, below ground, elevation.
EW-1A	750.40	45.0	42.50	36.85	713.55	0.0	64.0	25.0	28.7	
EW-2	791.33	85.0	81.50	71.00	720.33	0.0	70.8	27.5	28.7	
EW-3	767.58	64.0	62.40	37.40	730.18	0.3	63.7	39.3	28.8	
EW-4	834.84	130.0	**	**	**	0.0	65.3	37.4	28.7	
EW-5	807.61	104.0	89.90	48.50	759.11	0.0	69.0	19.5	28.8	
EW-6	758.81	64.5	54.60	38.80	720.01	2.5	56.6	31.6	28.9	
EW-7	771.37	54.5	63.10	47.60	723.77	0.1	63.4	40.5	29.1	
EW-8	753.69	49.0	43.70	7.50	746.19	2.5	73.5	10.0	28.9	

Notes

NL = No liquid measured

NA = Information not available

NM = Not measured

** = Information could not be obtained from well. Tape sticks to side of well.

NC = No Data Collected

Initial (GS) = Measured well depth to ground surface during well construction

% O2 = Percentage of oxygen

% CH4 = Percentage of methane

% CO2 = Percentage of carbon dioxide

Table 8
Leachate Elevation Data
Blackwell Landfill NPL Site
DuPage County, Illinois

Leachate Vent Number	Elevation Elevation (TOIC) (ft-MSL)	Location Coordinates (ft)		Liquid Level 6/21/96 (ft)	Leachate Elevation 6/21/96 (ft-MSL)	Liquid Level 7/21/96 (ft)	Leachate Elevation 7/23/96 (ft-MSL)	Liquid Level 10/21/96 (ft)	Leachate Elevation 10/21/96 (ft-MSL)
		East	North						
SV-1	740.77	541850	882210	5.75	735.02	5.70	735.07	6.52	734.25
SV-2	761.80	542320	881350	41.75	720.05	43.90	717.90	42.40	719.40
SV-3	734.66	542790	881200	5.95	728.71	9.40	725.26	12.16	722.50
SV-4	744.06	542080	882000	18.35	725.71	21.20	722.86	NL	-
SV-5	728.61	542160	882390	9.46	719.15	9.90	718.71	12.75	715.86
SV-6	762.57	542160	881710	26.28	736.29	27.20	735.37	29.80	732.77
SV-7	783.44	542000	881680	52.30	731.14	52.70	730.74	53.60	729.84
SV-8	726.06	541400	881560	15.35	710.71	16.00	710.06	15.20	710.86
SV-9	750.66	541570	881620	39.80	710.86	40.40	710.26	39.55	711.11
SV-10	753.96	541870	881340	60.50	693.46	59.40	694.56	61.10	692.86
SV-11	810.43	541770	881600	72.40	738.03	73.40	737.03	72.80	737.63
SV-12	827.37	541880	881350	65.60	761.77	66.30	761.07	65.20	762.17
DV-1	NA	NA	NA	NM	NM	NM	NM	NM	NM
DV-2	756.34	542770	881470	4.05	752.29	4.80	751.54	8.75	747.59
DV-3	750.75	541700	882080	14.70	736.05	14.70	736.05	15.48	735.27
DV-4	725.61	542300	881170	23.71	701.90	20.70	704.91	24.80	700.81
DV-5	721.92	541450	881140	26.10	695.82	25.80	696.12	25.37	696.55
DV-6	779.96	542300	881510	49.13	730.83	49.90	730.06	55.20	724.76
DV-7	833.94	541750	881480	86.50	747.44	87.10	746.84	NL	-
DV-8	732.59	542180	882270	9.05	723.54	9.70	722.89	10.20	722.39
DV-9	726.97	542150	882470	7.85	719.12	6.90	720.07	11.78	715.19
DV-10	768.61	541770	881810	29.60	739.01	29.90	738.71	32.64	735.97
DV-11	756.72	542770	881420	6.40	750.32	6.00	750.72	9.43	747.29
DV-12	731.25	542960	881190	30.58	700.67	26.60	704.65	30.87	700.38
DV-13	748.60	542490	881280	35.75	712.85	36.90	711.70	35.97	712.63
DV-14	740.80	542680	881680	NM	NM	20.70	720.10	24.10	716.70
DV-15	738.96	542070	881130	NM	NM	38.20	700.76	40.35	698.61
DV-16	735.54	541670	881040	NM	NM	34.70	700.84	NL	-
DV-17	731.89	541400	881330	NM	NM	24.70	707.19	23.73	708.16
DV-18	773.34	542220	881640	NM	NM	NM	NM	45.40	727.94
EW-1	756.65	541740	882020	42.20	714.45	42.40	714.25	36.80	714.84
EW-1A	754.83	541850	882050	42.30	712.53	42.30	712.53	36.85	713.55
EW-2	795.43	541770	881720	77.70	717.73	76.30	719.13	71.00	720.33
EW-3	772.95	542125	881730	44.20	728.75	41.30	731.65	37.40	730.18
EW-4	839.68	541740	881440	126.20	713.48	126.40	713.28	-	-
EW-5	812.13	542030	881460	53.30	758.83	52.90	759.23	48.50	759.11
EW-6	763.00	542280	881350	46.70	716.30	45.40	717.60	38.80	720.01
EW-7	776.44	542470	881560	52.70	723.74	53.50	722.94	47.60	723.77
EW-8	756.85	542770	881450	6.00	750.85	6.40	750.45	7.50	746.19

Notes:

TOIC = Top of inner casing

NA = Information not available

NM = Not measured

NL = No leachate in well

Elevation datum is Mean Sea Level (MSL)

Leachate elevation data for 10/21/96 reflects current TOIC elevation of extraction wells, which are below ground surface elevation, within extraction well vaults.



0643-200





A

1. 1. 1.



A

BORING LOGS - EXTENT OF FILL

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB21**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **729.6**
Northing: **1318.9**
Easting: **-1301.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Fine to Coarse SAND, Little Fine to Coarse Gravel (SP) Color Changing to Brown			
					Color Changing to Light Brown			
				5-	Increasing Gravel from 5 to 8 ft			
					End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				10-				
				15-				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig **Mobile**
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB22**Job No. **3920.0041**Sheet **1 of 1**Surface Elevation **728.4**Northing: **1298.9**Easting: **-1291.2**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	VE	Rec. (in.)	Mois- ture	N Value		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Fine to Coarse SAND, Little Fine to Coarse Gravel (SP) Color Changing to Brown			
					Color Changing to Light Brown			
				5	Increasing Gravel			
					Gray, Lean CLAY (CL)			
					End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 10/10/96 End 10/10/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB23**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **728.2**
Northing: **1278.1**
Easting: **-1277.3**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown to Brown, Fine to Coarse SAND (SP)			
				5	Gray, Lean CLAY (CL)			
					MUNICIPAL WASTE; Some Gravel Waste, Small Pieces of Wood and Glass			
					End of Boring at 8.0 ft			
				10	Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig **Mobile**
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB24**
 Job No. **3920.0041**
 Sheet **1 of 2**
 Surface Elevation **721.8**
 Northing: **1343.1**
 Easting: **-1086.1**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray, Silty CLAY, Some Gravel (CL-ML)			
				5	Gray, Silty CLAY (CL-ML)			
				10				
				15	Gray, Lean CLAY (CL)			

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start **10/10/96** End **10/10/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. HSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB24**
Job No. **3920.0041**
Sheet **2 of 2**
Surface Elevation **721.8**
Northing: **1343.1**
Easting: **-1086.1**


2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					End of Boring at 15.0 ft Borehole Backfilled with Drill Cuttings.			
				20				
				25				
				30				



Location DuPage County, Illinois

Boring No. TB25
Job No. 3920.0041
Sheet 1 of 1
Surface Elevation 722.6
Northing: 1326.2
Easting: -1082.6

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	MPX (in.)	Rec. (in.)	Mois- ture	N Value		Depth (ft.)	qu (qa) (tsf)	PID (ppm)
					5	<div style="border: 1px solid black; padding: 5px; display: inline-block;">  MUNICIPAL WASTE </div>		
						End of Boring at 5.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.		
					10			
					15			

GENERAL NOTES

While Drilling  _____ ft. Upon Completion of Drilling  _____ ft.

Time After Drilling _____

Depth to Water _____

Depth to Cave in _____

Start 10/10/96 End 10/10/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

J-3920\gm\BLACK ID: CHICAGO

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB26**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **737.0**
Northing: **1158.9**
Easting: **-1435.0**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Light Brown to Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	MUNICIPAL WASTE; Olive Gray CLAY, Waste Mixed with Clay			
					End of Boring at 6.5 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB27**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **745.2**
Northing: **1194.2**
Easting: **-1467.5**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown SAND and GRAVEL (SP/GP)			
					Gray Silty CLAY (CL-ML)			
				5				
				10	Brown, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois****Boring No. TB27**
Job No. **3920.0041**
Sheet **2 of 2**
Surface Elevation **745.2**
Northing: **1194.2**
Easting: **-1467.5**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					End of Boring at 15.0 ft Borehole Backfilled with Drill Cuttings.			
				20				
				25				
				30				



Location DuPage County, Illinois

Boring No. **TB28**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **745.6**
Northing: **978.0**
Easting: **-1444.4**

GENERAL NOTES

Start 10/10/96 End 10/10/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB29**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **749.6**
Northing: **972.8**
Easting: **-1465.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Clayey SAND and GRAVEL (SC/GC) GRAVEL and Cobbles			
				10	Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Brown, Silty CLAY (CL-ML)			
				15	MUNICIPAL WASTE; Clothing, Plastic			

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

Location DuPage County, Illinois

Boring No. TB29
Job No. 3920.0041
Sheet 2 of 2
Surface Elevation 749.6
Northing: 972.8
Easting: -1465.8

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					End of Boring at 15.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				20				
				25				
				30				

MONTGOMERY WATSON





LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**



Location **DuPage County, Illinois**

Boring No. **TB30**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **748.3**
Northing: **965.3**
Easting: **-1478.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	TYPE	Rec. (in.)	Mois- ture	N Value		Depth (ft.)	qu (qa) (tsf)	PID (ppm)
					 Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					 Brown, Silty CLAY (CL-ML)			

WATER LEVEL OBSERVATIONS

While Drilling  ft. Upon Completion of Drilling  ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB30**

Job No. **3920.0041**

Sheet **2 of 2**

Surface Elevation **748.3**

Northing: **965.3**

Easting: **-1478.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE

VISUAL CLASSIFICATION and Remarks

SOIL PROPERTIES

No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					End of Boring at 14.5 ft Borehole Backfilled with Drill Cuttings.			
				20				
				25				
				30				

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB31**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **744.3**

Northing: **1077.7**

Easting: **-1511.2**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown, Silty CLAY, Some Gravel (CL-ML)			
				5	Light Brown to Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				10	MUNICIPAL WASTE; Gray Clay Mixed with Paper, Plastic, Cloth			
				15	End of Boring at 12.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ft. Upon Completion of Drilling ft.
 Time After Drilling
 Depth to Water
 Depth to Cave in

Start **10/10/96** End **10/10/96**
 Driller **TSC** Chief **Bob** Rig **Mobile**
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB32**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **742.3**
Northing: **1078.4**
Easting: **-1538.1**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Black, Organic, Silty CLAY (CL-ML)			
				10	Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray Brown, Silty CLAY (CL-ML)			
					Dark Gray to Black, Silty CLAY (CL-ML)			
					End of Boring at 13.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 10/10/96 End 10/10/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB33**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **735.4**
Northing: **1246.8**
Easting: **-1381.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				10	Gray Brown, Silty CLAY (CL-ML)			
					MUNICIPAL WASTE; Paper, Plastic, Glass, Metal			
				15	End of Boring at 13.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			

WATER LEVEL OBSERVATIONS

While Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/10/96 End 10/10/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB34**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **733.1**
Northing: **1260.6**
Easting: **-1391.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray, Silty CLAY, Some Gravel (CL-ML)			
				5	Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Light Brown GRAVEL (GP)			
				10	Soft, Gray CLAY (CL)			
					End of Boring at 12.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling _____ ft. Upon Completion of Drilling _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB35**
 Job No. **3920.0041**
 Sheet **1 of 1**
 Surface Elevation **721.6**
 Northing: **1332.4**
 Easting: **-1207.8**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5				
					MUNICIPAL WASTE; Small Pieces of Wood, Cinders, Glass			
					End of Boring at 7.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start **10/11/96** End **10/11/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB36**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **719.5**

Northing: **1352.8**

Easting: **-1204.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Gray Brown SILT (ML)			
				5	Large White Rock (Drainage Area Put in by DFPD to 6.0 ft)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				10	End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/11/96 End 10/11/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB37**Job No. **3920.0041**Sheet **1 of 1**Surface Elevation **724.0**Northing: **1364.3**Easting: **-889.4****SAMPLE****VISUAL CLASSIFICATION
and Remarks****SOIL PROPERTIES**

No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Gray Brown, Silty CLAY (CL-ML)			
				5	Some Gravel Present			
				10				
				15	End of Boring at 13.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS**GENERAL NOTES**

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 10/11/96 End 10/11/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB38**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **724.6**
Northing: **1344.8**
Easting: **-885.5**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray, Silty CLAY, Little Gravel (CL-ML)			
					Waste, Cloth and Paper at 4.0 ft			
				5-	End of Boring at 4.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				10-				
				15-				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois****Boring No. TB39**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **723.5**
Northing: **1355.7**
Easting: **-994.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Silty CLAY (CL-ML)			
				5	Gray, Silty CLAY (CL-ML)			
				10	Gray Brown, Silty CLAY (CL-ML)			
					End of Boring at 12.0 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONSWhile Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTESStart **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**

Location **DuPage County, Illinois**

Boring No. **TB40**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **724.7**
Northing: **1333.0**
Easting: **-993.7**

J13920\qin\BLACK_ID: CHICAGO

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB41**
 Job No. **3920.0041**
 Sheet **1 of 1**
 Surface Elevation **726.8**
 Northing: **1292.5**
 Easting: **-805.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray, Silty CLAY (CL-ML)			
					MUNICIPAL WASTE; Numerous Wood Chips, Shredded Wood, Possible Went Through Roots			
				5	Possibly Drilling Through Tree Stump			
					End of Boring at 8.0 ft			
				10	Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



GENERAL NOTES

Start **10/11/96** End **10/11/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. HSA**

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois****Boring No. TB42**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **727.3**
Northing: **1283.2**
Easting: **-827.0**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (TOPSOIL)			
					Gray, Silty CLAY, Some Gravel (CL-ML)			
					MUNICIPAL WASTE; Cloth, Fabric, Plastic			
					End of Boring at 4.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				5				
				10				
				15				

WATER LEVEL OBSERVATIONSWhile Drilling  _____ ft. Upon Completion of Drilling  _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTESStart 10/11/96 End 10/11/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB43**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **729.6**
Northing: **1184.4**
Easting: **-815.5**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray, Silty CLAY (CL-ML)			
					CLAY (CL)			
					End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**



The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Location DuPage County, Illinois

Boring No. **TB44**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **728.4**
Northing: **1182.6**
Easting: **-839.2**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

GENERAL NOTES

While Drilling  _____ ft. Upon Completion of Drilling  _____ ft.

Time After Drilling _____

Depth to Water _____

Depth to Cave in _____

Start	10/11/96	End	10/11/96	
Driller	TSC	Chief	Bob	Rig Mobile
Logger	DAP	Editor	TJK	B-57
Drill Method	2 1/4" I.D. SSA			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

J13920\aint\BLACK ID: CHICAGO

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB45**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **730.7**

Northing: **1074.0**

Easting: **-834.3**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	VE	Rec. (in.)	Mois- ture	N Value	Depth (ft.)	qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty Clay TOPSOIL			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray, Silty CLAY, Little Gravel (CL-ML)			
					MUNICIPAL WASTE; Gray, Silty CLAY, Some Small Pieces of Wood and Plastic at 7.0 ft			
					End of Boring at 8.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/11/96** End **10/11/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB46**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **731.3**
Northing: **1065.1**
Easting: **-815.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	TYPE	Rec. (in.)	Mois- ture	N Value	Depth (ft.)	qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY, Some Gravel (CL-ML)			
					Some Cobble Present			
					Dark Gray to Black, Silty CLAY (CL-ML)			
					End of Boring at 8.0 ft			
					Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONSWhile Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTESStart 10/11/96 End 10/11/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB47**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **731.0**
Northing: **981.2**
Easting: **-914.3**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	TYPE	Rec. (in.)	Mois- ture	N Value	Depth (ft.)	qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Fine to Coarse SAND, Some Silt with Fine Gravel (SM)			
					Gray Brown, Fine to Coarse SAND, Fine GRAVEL, Little Clay and Silt (SC-SM/GC-GM)			
					5 Gray, Silty CLAY (CL-ML)			
					MUNICIPAL WASTE; Paper, Plastic and Metal			
					End of Boring at 8.0 ft			
					10 Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
					15			

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**

LOG OF TEST BORING

 Project **Blackwell Landfill - NPL Site**

 Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

 Boring No. **TB48**

 Job No. **3920.0041**

 Sheet **1 of 1**

 Surface Elevation **730.9**

 Northing: **956.9**

 Easting: **-868.4**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty, Fine SAND (SM)			
					Brown, Fine to Coarse SAND, Little Silt and Clay (SC-SM)			
					Gray, Silty CLAY, Little Gravel (CL-ML)			
				5				
					MUNICIPAL WASTE: Paper, Plastic, Metal and Wood			
					End of Boring at 8.0 ft			
				10	Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS
GENERAL NOTES

 While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

 Start 10/11/96 End 10/11/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB49**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **730.6**

Northing: **945.6**

Easting: **-848.9**

SAMPLE

VISUAL CLASSIFICATION and Remarks

SOIL PROPERTIES

No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)
-----	---------------	---------------	------------	----------------

qu (qa) (tsf)	PID (ppm)	Remarks
---------------------	--------------	---------

Dark Brown, Silty CLAY (CL-ML)

Light Gray Brown, Silty CLAY (CL-ML)

Brown, Fine to Coarse SAND and GRAVEL
(SP/GP)

End of Boring at 8.0 ft

Borehole Backfilled with Drill Cuttings.

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start 10/11/96 End 10/11/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB50**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **731.4**
Northing: **926.8**
Easting: **-861.3**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY, Little Gravel (CL-ML)			
				5	Gray, Silty CLAY (CL-ML)			
				10	End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/11/96 End 10/11/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TKL B-57
Drill Method 2 1/4" I.D. SSA

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB51**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **731.8**

Northing: **913.5**

Easting: **-882.5**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY, Little Gravel (CL-ML)			
					Brown Gray, Silty CLAY, Little Gravel (CL-ML)			
				5				
					MUNICIPAL WASTE: Paper, Plastic, Cardboard and Wood			
					End of Boring at 7.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start **10/11/96** End **10/11/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB52**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **729.4**
Northing: **885.0**
Easting: **-807.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown to Brown, Silty CLAY, Little Gravel (CL-ML)			
					Gray, Silty CLAY, Some Gravel (CL-ML)			
				5	MUNICIPAL WASTE: Paper, Plastic			
					End of Boring at 5.5 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB53**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **728.4**
Northing: **904.6**
Easting: **-794.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray Brown, Silty CLAY, Little Gravel (CL-ML)			
				5				
					End of Boring at 8.5 ft			
				10	Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB54**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **734.5**
Northing: **816.5**
Easting: **-730.1**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Black, Organic CLAY (CL)			
					Gray, Silty CLAY, Some Gravel (CL-ML)			
				5	Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Dark Gray Brown, Silty CLAY, Little Gravel (CL-ML)			
				10	End of Boring at 9.0 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 10/11/96 End 10/11/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB55**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **733.1**
Northing: **794.5**
Easting: **-737.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Black Organic SILT (ML)			
					Gray, Fine to Coarse GRAVEL, Some Clay and Silt (GC-GM)			
				5	Gray, Silty CLAY, Little Gravel (CL-ML)			
					MUNICIPAL WASTE: Paper, Plastic			
					End of Boring at 8.0 ft			
				10	Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 10/11/96 End 10/11/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB56**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **733.7**

Northing: **764.4**

Easting: **-641.8**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Black, Organic, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray Brown, Silty, Clayey GRAVEL (GC-GM)			
				5	Dark Gray Brown, Silty CLAY (CL-ML)			
					End of Boring at 8.0 ft			
				10	Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/11/96** End **10/11/96**
 Driller **TSC** Chief **Bob** Rig **Mobile**
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB57**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **734.1**
Northing: **741.7**
Easting: **-647.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Black Organic, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Brown, Silty, Clayey GRAVEL (GC-GM)			
					Gray, Silty, Clayey GRAVEL (GC-GM)			
				5	Brown SAND and GRAVEL (SP/GP)			
					Gray Brown, Silty CLAY (CL-ML)			
				10	End of Boring at 9.0 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB58**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **734.5**
Northing: **720.6**
Easting: **-662.2**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty, Clayey GRAVEL (GC-GM)			
					Brown, Fine to Coarse SAND and GRAVEL, Cobbles (SP/GP)			
				5	Gray, Silty, Clayey GRAVEL (GC-GM)			
					Gray, Silty CLAY, Some Waste; Paper, Plastic Metal (CL-ML)			
				10	End of Boring at 9.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cuttings to Surface.			
				15				

WATER LEVEL OBSERVATIONSWhile Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____**GENERAL NOTES**Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB59**
 Job No. **3920.0041**
 Sheet **1 of 1**
 Surface Elevation **734.2**
 Northing: **721.9**
 Easting: **-543.5**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (TOPSOIL)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray, Silty CLAY, Some Gravel (CL-ML)			
				10	End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start **10/14/96** End **10/14/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB60**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **734.5**

Northing: **706.5**

Easting: **-556.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray and Brown, Silty CLAY, Little GRAVEL (CL-ML)			
					End of Boring at 8.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start 10/14/96 End 10/14/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**

Boring No. **TB61**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **736.5**
Northing: **678.3**
Easting: **-569.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray, Silty CLAY, Little Sand and Gravel (CL-ML)			
				10	End of Boring at 9.5 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB62**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **740.0**
Northing: **659.8**
Easting: **-582.2**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	TYPE	Rec. (in.)	Mois- ture	N Value	Depth (ft.)	qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Gray Brown, Silty CLAY (CL-ML)			
					Gray Brown GRAVEL and SAND, Some Silt and Clay (GC-GM/SC-SM)			
					Gray, Silty, Clayey GRAVEL (GC-GM)			
					5			
					Brown, Fine to Coarse SAND and GRAVEL, Some Clay (SC-SM/GC-GM)			
					Dark Gray, Silty, Clayey GRAVEL (GC-GM)			
					10			
					MUNICIPAL WASTE: Small Pieces of Wood, Clothing and Paper			
					End of Boring at 12.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
					15			

WATER LEVEL OBSERVATIONS

While Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB63**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **735.7**
Northing: **641.6**
Easting: **-474.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (TOPSOIL)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray, Silty CLAY, Little Gravel (CL-ML)			
					End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB64**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **739.3**
Northing: **622.2**
Easting: **-486.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	TYPE	Rec. (in.)	Mois- ture	N Value	Depth (ft.)	qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray Brown, Silty, Clayey SAND (SC-SM)			
					Gray, Silty CLAY, Little Sand (CL-ML)			
					Hit Rock at 12.0 ft			
					MUNICIPAL WASTE: Plastic Mixed with Clay			

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB64**
 Job No. **3920.0041**
 Sheet **2 of 2**
 Surface Elevation **739.3**
 Northing: **622.2**
 Easting: **-486.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qs) (tsf)	PID (ppm)	Remarks
					End of Boring at 15.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				20				
				25				
				30				

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB65**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **735.0**

Northing: **596.0**

Easting: **-387.1**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Dark Brown CLAY (CL)			
				5	Brown, Fine to Coarse SAND and GRAVEL, Some Clay (SC-SM/GC-GM)			
					Gray, Silty CLAY, No Waste (CL-ML)			
				10	MUNICIPAL WASTE: Piece of Wire, Plastic (Very Edge of Waste)			
					End of Boring at 10.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/14/96 End 10/14/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. SSA

Location **DuPage County, Illinois**

Boring No. **TB66**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **734.4**
Northing: **616.6**
Easting: **-378.3**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB67**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **731.7**

Northing: **577.5**

Easting: **-283.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (TOPSOIL)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray Brown, Silty, Clayey GRAVEL (GC-GM)			
					Gray, Silty GRAVEL (GM)			
					End of Boring at 8.0 ft			
				10	Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____



Start 10/14/96 End 10/14/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Location DuPage County, Illinois

Boring No. TB68
Job No. 3920.0041
Sheet 1 of 1
Surface Elevation 734.6
Northing: 547.1
Easting: -300.3

GENERAL NOTES

While Drilling		_____ ft.	Upon Completion of Drilling		_____ ft.
Time After Drilling					
Depth to Water					
Depth to Cave in					

Start	10/14/96	End	10/14/96	
Driller	TSC	Chief	Bob	Rig Mobile
Logger	DAP	Editor	TJK	B-57
Drill Method	2 1/4" I.D. SSA			

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

J13920\aint\BLACK ID, CHICAGO

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB69**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **737.4**
Northing: **523.1**
Easting: **-312.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown to Gray Brown, Silty, Clayey GRAVEL (GC-GM)			
					Gray Brown, Silty CLAY (CL-ML)			
				5	Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray, Silty CLAY, Little Gravel (CL-ML)			
				10	Brown, Clayey SAND (SC)			
					End of Boring at 12.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB70**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **739.3**
Northing: **501.4**
Easting: **-319.3**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Gray Brown, Silty, Clayey GRAVEL, Some Fine Sand (GC-GM)			
					Gray, Silty, Clayey GRAVEL (GC-GM)			
				5	Brown, Silty CLAY (CL-ML)			
					Dark Gray Brown, Silty CLAY (CL-ML)			
					Gray, Silty CLAY, Little Gravel (CL-ML)			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 10/14/96 End 10/14/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB70**

Job No. **3920.0041**

Sheet **2 of 2**

Surface Elevation **739.3**

Northing: **501.4**

Easting: **-319.3**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					<p>End of Boring at 16.0 ft</p> <p>Borehole Backfilled with Drill Cuttings.</p>			
				20				
				25				
				30				

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB71**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **730.6**

Northing: **526.2**

Easting: **-200.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (TOPSOIL)			
					Brown, Silty CLAY, Some Sand and Gravel (CL-ML)			
					Brown, Silty CLAY, Little gravel (CL-ML)			
				5	Gray, Silty CLAY, Little Gravel (CL-ML)			
				10	Light Gray Brown, Silty, Clayey GRAVEL (CC-GM)			
					End of Boring at 10.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start **10/14/96** End **10/14/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB72**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **734.4**
Northing: **502.2**
Easting: **-218.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown, Fine to Coarse SAND and GRAVEL, Some Silt and Clay (SC-SM/GC-GM)			
				5	Brown, SAND and GRAVEL, Some Silt and Clay (SC-SM/GC-GM)			
				10	Gray Brown, Fine SAND and GRAVEL, Some Silt and Clay (SC-SM/GC-GM)			
					Gray, Silty, Clayey GRAVEL (GC-GM)			
				15	Dark Gray Brown, Silty CLAY, Little Fine to Coarse Sand, No Waste to 17.0 ft (CL-ML)			

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 10/14/96 End 10/14/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



Location DuPage County, Illinois

Boring No. **TB72**
Job No. **3920.0041**
Sheet **2 of 2**
Surface Elevation **734.4**
Northing: **502.2**
Easting: **-218.4**

[illegible]

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB72A**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **734.4**
Northing: **502.2**
Easting: **-218.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Blind Drilled to 17.0 ft			

WATER LEVEL OBSERVATIONSWhile Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTESStart **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig **Mobile**
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

Project **Blackwell Landfill - NPL Site**

Location DuPage County, Illinois

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB72A**
Job No. **3920.0041**
Sheet **2 of 2**
Surface Elevation **734.4**
Northing: **502.2**
Easting: **-218.4**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown, Silty CLAY (CL-ML)			
				20	Brown CLAY (CL)			
					Gray Brown, Silty CLAY, No Waste (CL-ML)			
				25	End of Boring at 23.0 ft Borehole Backfilled with Drill Cuttings.			
				30				

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB73**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **740.1**
Northing: **471.3**
Easting: **-249.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY, Fine Sand (CL-ML)			
				5	Gray, Silty CLAY, Some Gravel (CL-ML)			
					Gray Brown, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)			
				10	Gray Brown to Brown, Silty CLAY, Little Fine to Coarse Gravel (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray Brown, Silty CLAY (CL-ML)			
					Color Changing to Gray at 14.0 ft			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB73**Job No. **3920.0041**Sheet **2 of 2**Surface Elevation **740.1**Northing: **471.3**Easting: **-249.9**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray, Silty CLAY, Trace Fine to Coarse Gravel (CL-ML)			
				20	Gray Brown, Silty CLAY, Trace Fine to Coarse Gravel (CL-ML)			
				25	MUNICIPAL WASTE: Paper, Plastic, Cardboard			
					End of Boring at 25.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				30				

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB74**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **734.7**
Northing: **444.7**
Easting: **-161.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY (CL-ML)			
				5	Gray, Silty CLAY to Dark Gray Brown, Silty CLAY (CL-ML)			
				10	Gray Brown, Silty CLAY to Gray Silty CLAY (CL-ML)			
				15	Gray Brown, Silty CLAY (CL-ML)			

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB74**

Job No. **3920.0041**

Sheet **2 of 2**

Surface Elevation **734.7**

Northing: **444.7**

Easting: **-161.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray, Silty CLAY to CLAY (CL-ML/CL)			
				20				
					MUNICIPAL WASTE: Small Pieces of Cloth at 21.0 ft, Edge of Waste			
					End of Boring at 23.0 ft			
				25	Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				30				

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

Boring No. **TB75**
Job No. **3920.0041**
Sheet **1 of 2**
Surface Elevation **739.9**
Northing: **416.7**
Easting: **-177.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY (CL-ML)			
					Gray, Silty CLAY, Little Gravel (CL-ML)			
				5				
					Dark Gray Brown, Silty CLAY (CL-ML)			
				10				
					Brown, Fine to Coarse SAND and GRAVEL, Some CLAY (SC/GC)			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB75**

Job No. **3920.0041**

Sheet **2 of 2**

Surface Elevation **739.9**

Northing: **416.7**

Easting: **-177.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown, Silty CLAY, Little Gravel (CL-ML)			
					Dark Gray, Silty CLAY (CL-ML)			
				20				
					Gray, Silty CLAY, Little Gravel (CL-ML)			
					MUNICIPAL WASTE: Wet CLAY at 24.0 ft; Cardboard and Paper Present			
				25				
					End of Boring at 24.5 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				30				

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB76**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **729.1**
Northing: **65.4**
Easting: **-255.4**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown, Silty CLAY, Little Gravel (CL-ML)			
				5	Gray, Silty CLAY (CL-ML)			
				10	Gray, Silty CLAY, Little Black Staining, No Waste (CL-ML)			
				15	End of Boring at 13.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB77**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **732.4**
Northing: **87.7**
Easting: **-246.8**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown, Silty CLAY, Little Gravel (CL-ML)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5	Gray to Gray Brown, Silty, Clayey GRAVEL, Fine Sand (GC-GM)			
				10	MUNICIPAL WASTE: Shredded Wood, Paper			
				15	End of Boring at 11.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			

WATER LEVEL OBSERVATIONSWhile Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTESStart **10/14/96** End **10/14/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

**MONTGOMERY
WATSON**

LOG OF TEST BORING

 Project **Blackwell Landfill - NPL Site**

 Location **DuPage County, Illinois**

 Boring No. **TB78**
 Job No. **3920.0041**
 Sheet **1 of 1**
 Surface Elevation **727.7**
 Northing: **50.1**
 Easting: **-341.2**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown to Brown, Silty CLAY (CL-ML)			
				5	Gray Brown, Silty CLAY (CL-ML)			
				10	Dark Gray, Silty CLAY (CL-ML)			
				15	End of Boring at 12.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS
GENERAL NOTES

 While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

 Start **10/14/96** End **10/14/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB79**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **729.9**

Northing: **73.3**

Easting: **-341.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray Brown, Silty CLAY (CL-ML)			
					Brown, Fine to Coarse SAND (SP)			
					Gray, Silty CLAY (CL-ML)			
				5				
					MUNICIPAL WASTE: Numerous Pieces of Wood, Black Staining, Clothing			
					End of Boring at 7.5 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start **10/14/96** End **10/14/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB80**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **729.1**

Northing: **76.0**

Easting: **-136.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Gray Brown, Silty CLAY, Little Sand (CL-ML)			
					Gray Silty CLAY, Little Gravel (CL-ML)			
				5				
					Gray Brown to Gray, Silty, Clayey GRAVEL (GC-GM)			
				10				
					End of Boring at 11.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/15/96** End **10/15/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. SSA**

MONTGOMERY WATSON



LOG OF TEST BORING

Project Blackwell Landfill - NPL Site

Location DuPage County, Illinois

Boring No. **TB81**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **730.1**
Northing: **90.5**
Easting: **-143.5**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)			
					Brown CLAY (CL)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					Gray, Silty CLAY (CL-ML)			
				5				
					Gray Brown, Silty, Clayey GRAVEL (GC-GM)			
					Gray, Silty CLAY (CL-ML)			
					Wet at 9.0 ft, Waste from 9 to 9.5 ft; Pieces of Plastic and Rubber			
				10	End of Boring at 9.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 10/15/96 End 10/15/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. SSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB82**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **726.0**
Northing: **49.4**
Easting: **-450.5**

SAMPLE					VISUAL CLASSIFICATION and Remarks		SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)			qu (qa) (tsf)	PID (ppm)	Remarks
						Gray Brown, Silty, Clayey GRAVEL (GC-GM)			
						Gray, Silty CLAY, Little Gravel (CL-ML)			
				5		Gray, Silty CLAY (CL-ML)			
						Black, Organic, Silty CLAY (CL-ML)			
				10		Dark Gray Brown, Silty CLAY, No Waste to 13.0 ft (CL-ML)			
						End of Boring at 13.0 ft			
						Borehole Backfilled with Drill Cuttings.			
				15					

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start **10/15/96** End **10/15/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Location **DuPage County, Illinois**

Boring No. **TB83**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **727.6**
Northing: **72.1**
Easting: **-450.9**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB84**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **724.6**
Northing: **53.2**
Easting: **-529.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					ASPHALT			
					Gray Brown, Silty CLAY, Some Fine to Coarse Gravel (CL-ML)			
					Gray, Silty CLAY (CL-ML)			
				5				
					Black Organic CLAY (CL)			
					Gray Brown, Silty, Clayey GRAVEL (GC-GM)			
				10	Gray Silty CLAY (CL-ML)			
					Dark Gray Brown, Silty CLAY (CL-ML)			
					End of Boring at 12.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/15/96** End **10/15/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB85**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **727.9**
Northing: **77.1**
Easting: **-531.6**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Light Gray Brown, Silty CLAY (CL-ML)			
					Brown, Silty, Clayey, Fine SAND (SC-SM)			
					Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
				5				
					Dark Gray Brownm, Silty CLAY (CL-ML)			
					MUNICIPAL WASTE: Pieces of Shredded Wood			
					End of Boring at 8.0 ft			
				10	Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONSWhile Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTESStart **10/15/96** End **10/15/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. SSA**



B

BORING LOGS

**Cap Continuity/Characterization Logs
Extraction Well Logs**

CAP CONTINUITY/CHARACTERIZATION LOGS

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB01**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation

Northing: **1181.1**

Easting: **-1358.3**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	12	M	32		2" Brown, Silty CLAY (TOPSOIL) Dense to Very Dense, Brown, Fine to Coarse SAND and GRAVEL, Little Clay and Silt (SP/GP)	--		
2	12	M	51		Dense to Very Dense, Brown, Fine to Coarse SAND and GRAVEL (SP/GP)	--		
3	18	M/W	58		Dense to Very Dense, Orange-Brown, Fine to Coarse SAND and GRAVEL, Trace to Little Silt and Clay (SP/GP)	--		
4	8	W	50/6"		Very Stiff, Gray, Silty CLAY, Some Fine to Coarse Gravel (CL-ML)	2.5		
					MUNICIPAL WASTE: Pices of Cloth, Wire, Rope and Wood			
					End of Boring at 10.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start **10/9/96** End **10/9/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. HSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB01A**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **730.7**
Northing: **1215.0**
Easting: **-1265.3**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	16	M	17		Very Stiff, Dark Brown to Black, Organic CLAY (OL)	3.0- 4.0		
2	16	M	14		Very Stiff, Brown, Silty CLAY, Little to Some, Fine to Coarse Gravel (CL-ML)			
					Medium Stiff, Brown and Gray, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	0.5- 1.0		
					Loose, Light Brown, Coarse Gravel at 3.6 ft			
3	8	M	9			--		
				5				
					End of Boring at 6.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **10/10/96** End **10/10/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB01B**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **737.5**
Northing: **1137.5**
Easting: **-1445.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	20	M	50		Dark Brown, Silty CLAY (CL-ML)	--		
					Medium Dense to Very Dense, Brown, Fine to Coarse SAND and GRAVEL, Little Silt (SP-SM/GP-GM)			
2	18	M	41		Medium Dense to Very Dense, Brown, Fine to Coarse SAND and GRAVEL, Trace Silt and Clay (SP/GP)	--		
					Very Stiff, Brown, Silty CLAY, Little Fine to Coarse Gravel (CL-ML)			
3	18	M	25			3.0		
				5	Very Stiff, Gray, Silty CLAY, Some Fine to Coarse Gravel (CL-ML)			
					MUNICIPAL WASTE: Paper, Plastic and Wood			
					End of Boring at 6.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start **10/11/96** End **10/11/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB02**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation
Northing: **1180.2**
Easting: **-957.6**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	18	M	20		Dark Brown TOPSOIL Very Stiff, Brown to Gray Brown, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	--		
2	18	M	12		Very Stiff, Brown, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	--		
					Medium Dense, Brown, Fine to Coarse SAND and GRAVEL (SP/GP)	>4.0		
3	20	M	43		Hard, Gray, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	>4.0		
					Hard, Clayey SILT (ML)	--		
					End of Boring at 6.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 10/9/96 End 10/9/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB03**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation

Northing: **981.3**

Easting: **-1357.4**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	16	M	39		Brown, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	--		
					Dense, Brown, Silty CLAY, Little Sand, Trace Gravel (CL-ML)			
2	6	M	66/8"			--		
3	12	M	42			--		
				5				
4	10	M	76		SILT (ML)	--		
					Dense to Very Dense, Brown, Fine to Coarse SAND and GRAVEL, Trace Clay and Silt (SP/GP)			
5	14	M	34			--		
				10				
6	12	M				--		
					MUNICIPAL WASTE: Clay Interspersed with Paper			
					End of Boring at 12.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ∇ _____ ft. Upon Completion of Drilling ∇ _____ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



GENERAL NOTES

Start **10/9/96** End **10/9/96**
 Driller **TSC** Chief **Bob** Rig Mobile
 Logger **DAP** Editor **TJK** **B-57**
 Drill Method **2 1/4" I.D. HSA**

Location DuPage County, Illinois

Boring No. **TB03A**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **741.2**
Northing: **1080.0**
Easting: **-1385.6**

GENERAL NOTES

While Drilling  _____ ft. Upon Completion of Drilling  _____ ft.

Time After Drilling _____

Depth to Water _____

Depth to Cave in _____

Start 10/10/96 End 10/10/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

J13920\aint\BLACK_ID: CHICAGO

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB03B**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation **744.9**

Northing: **987.8**

Easting: **-1248.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL: (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	10	M	77		Dark Brown, Silty CLAY (CL-ML) Dense to Very Dense, Brown, Fine to Coarse SAND and GRAVEL, Trace Clay and Silt (SP/GP)	--		
2	16	M	44			--		
3	12	M	103			--		
4	16	M	44			--		
5	12	M/W	50/ 2"		Olive Gray/Brown, Silty CLAY, Some Fine to Coarse Sand and Gravel (CL-ML)	--		
					MUNICIPAL WASTE: Olive Gray, Clayey, Very Coarse SAND and GRAVEL, Pieces of wood and Paper	--		
					End of Boring at 11.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start- 10/10/96 End 10/10/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB03C**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **750.6**
Northing: **880.6**
Easting: **-1349.1**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	12	M	74/8"		Dark Brown, Silty CLAY (CL-ML) Very Dense, Brown, Fine to Coarse SAND and GRAVEL, Trace Silt and Clay (SP/GP)	--		
2	18	M	56			--		
3	16	M	65			--		
4	16	M	66		Very Dense, GRAVEL (GP)	--		
5	20	M	56		Very Dense, Brown, Fine to Coarse SAND and GRAVEL (SP/GP)	--		
					Very Dense, Gray, Fine to Coarse SAND, Little Fine to Coarse Gravel (SP)			
7	16	M	15		Grayish Green and Brown CLAY, Little Fine to Coarse Sand and Gravel (CL)	--		
					MUNICIPAL WASTE: Wood, Glass, Paper, Interspersed with Clay			
					End of Boring at 12.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/10/96 End 10/10/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB03D**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation **748.1**
Northing: **931.6**
Easting: **-1421.6**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	18	M	22		Dark Brown, Silty CLAY (TOPSOIL) Medium Dense, Brown, Fine to Coarse SAND and GRAVEL, Trace Silt and Clay (SP/GP)	--		
2	20	M	24		Medium Dense, Brown, Sandy, Gravelly CLAY (CL) Medium Dense, Gray, Fine to Coarse GRAVEL (GP)	1.0		
3	20	M	19		Medium Dense, Brown, Sandy, Gravelly CLAY (CL) Medium Dense, Brown, Clayey SAND and GRAVEL (SC/GC)	4.0		
4	20	M	16		Medium Dense, Dark Brown, Gravelly CLAY (CL) Medium Dense, Brown, Silty CLAY, Some Fine to Coarse Gravel (CL-ML)	0.5- 3.5		
5	20	M/W	16		Medium Dense, Brown, Clayey SAND and GRAVEL (SC/GC) Medium Dense, Dark Brown CLAY, Some Gravel (CL) Very Stiff, Brown SILT, Some Clay (ML) Very Stiff, Dark Brown SILT, Some Clay, Little Fine to Coarse Sand and Gravel (ML)	3.0		
				10	Medium Dense, Clayey, Fine to Coarse SAND (SC)			
				15	End of Boring at 10.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/11/96 End 10/11/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

Location DuPage County, Illinois

Boring No. TB04
Job No. 3920.0041
Sheet 1 of 1
Surface Elevation
Northing: 980.4
Easting: -1157.5

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**Boring No. **TB05**Job No. **3920.0041**Sheet **1 of 1**

Surface Elevation

Northing: **978.6**Easting: **-957.6**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	20	M	28		Dark Brown, Clayey TOPSOIL Brown, Silty CLAY, Little Fine Sand (CL-ML)	00		
2	22	M	22		Hard, Brown, Silty CLAY, Trace to Little, Fine to Coarse Sand and Fine Gravel (CL-ML)	>4.0		
3	22	M	19			>4.0		
				5	Hard, Gray, Silty CLAY, Trace to Little, Fine to Coarse Sand and Gravel (CL-ML)			
					End of Boring at 6.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/9/96 End 10/9/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB06**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation
Northing: **780.6**
Easting: **-1357.9**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PI (ppm)	Remarks
1	20	M	46		Brown, Silty CLAY (TOPSOIL) Brown, Fine to Coarse SAND and GRAVEL (SP/GP)	--		
2	22	M	44			--		
						2.5		
3	20	M	33		Very Stiff, Brown CLAY, Little Fine to Coarse Sand and Gravel (CL) Very Stiff, Brown, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	2.5- 3.0		
				5	Very Stiff GRAVEL, Some Clay (GC)			
4	22	M	16		Very Stiff, Dark Gray to Black, Silty CLAY (CL-ML) Very Stiff, Black, Organic CLAY (OL)	2.0- 2.5		
					End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 10/9/96 End 10/9/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB07**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation

Northing: **780.8**

Easting: **-1157.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	22	M	27		Dark Brown, Silty TOPSOIL	--		
					Hard, Gray, Silty CLAY, Little to Some, Fine to Coarse Gravel (CL-ML)			
2	22	M	24		Hard, Gray, Silty CLAY (CL-ML)	> 4.0		
					Medium Dense, Brown, Fine to Coarse SAND and GRAVEL, Some CLAY (GC-GM)			
3	16	M	30		Very Stiff, Dark Brown to Black, Silty CLAY, Little Fine to Coarse Gravel, Trace Organics to 5.3 ft (CL-ML)	3.0- 2.5		
					Medium Dense, Brown, Fine to Coarse SAND and GRAVEL (SP/GP)			
					End of Boring at 6.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/9/96 End 10/9/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

**MONTGOMERY
WATSON**

LOG OF TEST BORING

 Project **Blackwell Landfill - NPL Site**

 Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

 Boring No. **TB08**

 Job No. **3920.0041**

 Sheet **1 of 1**

Surface Elevation

 Northing: **780.6**

 Easting: **-958.5**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	22	M	75		Dark Brown, Silty CLAY (TOPSOIL)	--		
					Very Dense, Brown, Fine to Coarse GRAVEL, Little to Some, Fine to Coarse Sand, Some Silt (GM)			
2	22	M	62		Very Dense, Brown, Fine to Coarse SAND and GRAVEL (SP/GP)	--		
					Very Stiff, Gray to Gray Brown CLAY, Little to Some, Fine to Coarse Sand and Gravel (CL)	3.0-		
3	22	M	18		Hard, Brown CLAY, Trace to Little, Fine to Coarse Gravel, Trace Fine Sand (CL)	> 4.0		
				5				
4	18	M	88/9"		Very Stiff, Gray, Silty CLAY, Trace to Little, Fine to Coarse Gravel (CL-ML)	3.0		
					Very Dense, Gray Brown, Fine to Coarse GRAVEL, Some Fine to Coarse Sand, Trace to Little Clay (GP)	--		
					End of Boring at 8.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS
GENERAL NOTES

 While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

 Start 10/9/96 End 10/9/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON****LOG OF TEST BORING**Project **Blackwell Landfill - NPL Site**Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB09**Job No. **3920.0041**Sheet **1 of 1**

Surface Elevation

Northing: **579.0**Easting: **-957.6****SAMPLE****VISUAL CLASSIFICATION
and Remarks****SOIL PROPERTIES**

No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	16	M	38		Brown to Dark Brown, Silty CLAY, Some Organics (ML) Gravel at 1.2 to 1.4 ft	--		
2	18	M	25		Gray Brown to Gray, Silty CLAY, Trace to Little, Fine to Coarse Sand and Gravel (CL-ML)	--		
3	16	M			Gray, Silty CLAY, Little, Fine to Coarse Sand and Gravel (CL-ML)	--		
					End of Boring at 6.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS**GENERAL NOTES**

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 10/7/96 End 10/7/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB10**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation

Northing: **579.9**

Easting: **-756.8**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	10	M	10/0"		Dark Brown to Brown, Silty CLAY (CL-ML) Cobble at 1.0 ft	--		
2	20	M	17		Hard, Gray and Brown, Silty CLAY, Some Gravel, Little Sand (CL-ML)	> 4.0		
					Hard, Gray, Silty CLAY, Trace Fine to Coarse Gravel (CL-ML)			
3	20	M	56			> 4.0		
				5	Gravel Zone from 4.8 to 5.3 ft Gray, Silty CLAY, Some Gravel (CL-ML)			
4	16	M	11		Waste (Black Stained); Pieces of Wood	NA		
				10	End of Boring at 8.0 ft Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start 10/7/96 End 10/7/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB10A**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation

Northing:

Easting:

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY, Little Fine to Coarse Sand and Gravel Followed by Gravel (CL-ML)			
					Gray, Silty CLAY, Trace Fine to Coarse Gravel (CL-ML)			
2	16	M	29			> 4.0		
					Clayey GRAVEL (GC)			
3	10	M			Gray, Silty CLAY, Trace Sand and Gravel (CL-ML)	> 4.0		
4		M		5	Refusal at 5.0 ft			
					Gray Brown, Silty CLAY, Little Fine to Coarse Gravel (CL-ML)			
					Pieces of Wood at 6.5 ft			
					End of Boring at 7.0 ft			
					Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

Start 10/7/96 End 10/7/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB11**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation
Northing: **580.8**
Easting: **-557.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	22	M	15		Dark Brown, Silty CLAY, Light Gray Brown, Silty CLAY, Little Gravel (CL-ML)	--		
2	22	M	22		Gray, Silty CLAY, Trace Fine to Coarse Gravel (CL-ML)	> 4.0		
3	16	M	22		Thin Sand Seam at 3.4 ft Gray, Silty CLAY, Trace to Little, Fine to Coarse Gravel and Sand (CL-ML)			
				5				
					End of Boring at 6.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start **10/7/96** End **10/7/96**
Driller **TSC** Chief **Bob** Rig Mobile
Logger **DAP** Editor **TJK** **B-57**
Drill Method **2 1/4" I.D. HSA**

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB12**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation
Northing: **580.8**
Easting: **-358.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	15	M	44		Dark Brown, Silty CLAY, Little Fine Sand (CL-ML)	NA		
					CLAY, Some Fine to Coarse Sand and Gravel (CL)			
2	22	M	32			NA		
3	22	M	20		Brown CLAY, Some Sand to 5.2 ft	NA		
				5		> 4.0		
					Hard, Gray Silty CLAY, Trace to Little, Fine to Coarse Gravel (CL-ML)	2.0		
4	22	M	16			3.5		
5	22	M				4.0		
					Hard, Brown, Silty CLAY, Little Fine to Coarse Gravel (CL-ML)	> 4.0		
				10				
					End of Boring at 10.0 ft			
					Borehole Backfilled with Bentonite Hole Plug to 1 ft Above Waste - Drill Cutting to Surface.			
				15				

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/7/96 End 10/7/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

**MONTGOMERY
WATSON**

LOG OF TEST BORING

 Project **Blackwell Landfill - NPL Site**

 Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

 Boring No. **TB13**

 Job No. **3920.0041**

 Sheet **1 of 1**

Surface Elevation

 Northing: **378.6**

 Easting: **-957.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	20	M	25		Stiff to Hard, Dark Brown, Silty CLAY, Fine Sand (TOPSOIL)	> 4.0		
2	18	M	9		Stiff to Hard, Brown to Blue Gray, Silty CLAY, Trace to Little, Fine to Coarse Sand and Gravel (CL-ML)	> 4.0- 1.5		
3	20	M/W	10		Stiff to Very Stiff, Gray, Silty CLAY, Interspersed Seams of Silty Fine to Coarse Sand (CL-ML)	3.0- 1.5		
4	22	M	14		Hard, Gray, Silty CLAY, Trace to Little, Fine to Coarse Sand and Gravel (CL-ML)	4.0- > 4.0		
					End of Boring at 8.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS

 While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

 Start 10/7/96 End 10/7/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB14**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation

Northing: **381.0**

Easting: **-757.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	18	M	38		Brown to Gray Brown, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	> 4.0		
2	20	M	50		Brown, Fine to Coarse SAND and GRAVEL (SP/GP)	--		
3	18	M	58		Some Small Cobbles Present	--		
4	20	M	68			--		
5	14	M	40			--		
6	18	M	28		Gray Brown to Gray, Silty CLAY, Little Fine to Coarse Sand and Gravel (CL-ML)	> 4.0		
7	22	M	19			4.0- > 4.0		
					End of Boring at 14.0 ft Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 10/7/96 End 10/7/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

**MONTGOMERY
WATSON**

LOG OF TEST BORING

 Project **Blackwell Landfill - NPL Site**

 Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

 Boring No. **TB15**

 Job No. **3920.0041**

 Sheet **1 of 1**

Surface Elevation

 Northing: **381.9**

 Easting: **-557.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	18	M	14		Dark Brown, Silty CLAY (TOPSOIL)	--		
					Brown, Clayey SAND and GRAVEL (SC/GC)			
2	20	M	24		Gray, Silty CLAY, Little to Some, Fine to Coarse Sand and Gravel (CL-ML)	4.0		
3	20	M	15		Gray, Silty CLAY, Trace to Little, Fine to Coarse Sand and Gravel, Small Piece of Glass and Rubber (CL-ML) Black Staining Present	3.0		
4	18	M	16		Sand Seam at 8.5 to 8.7 ft	3.0- >4.0		
5	18	M			Hard, Gray Brown, Silty CLAY, Some Coarse Gravel, Little Coarse Sand (CL-ML)	>4.0		
				10	End of Boring at 10.0 ft Borehole Backfilled with Drill Cuttings.			
				15				

WATER LEVEL OBSERVATIONS
GENERAL NOTES

 While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

 Start 10/7/96 End 10/7/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.



Location DuPage County, Illinois

Boring No. **TB16**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation
Northing: **381.9**
Easting: **-357.9**

JL3920\ant\BLACK ID: CHICAGO

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB17**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation
Northing: **180.6**
Easting: **-757.9**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	20	M	16		Dark Brown to Black CLAY (TOPSOIL) Hard, Gray Brown, Silty CLAY, Trace Fine to Coarse Sand and Gravel, Organics (CL-ML)	> 4.0		
2	22	M	19			> 4.0		
				5	End of Boring at 4.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 10/9/96 End 10/9/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB18**
Job No. **3920.0041**
Sheet **1 of 1**
Surface Elevation
Northing: **180.3**
Easting: **-556.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	20	M			Dark Brown, CLAY (TOPSOIL) Gray Silt (ML) Gray Brown to Gray CLAY, Fine to Coarse Gravel (CL)	--		
2	22	M			Hard, Gray, Silty CLAY, Little Fine to Coarse Gravel, Trace Fine to Coarse Sand (CL-ML)	4.0- >4.0		
3	12	M				3.5 3.5		
				5	Very Stiff, Black Organic Silty CLAY (OL)			
					End of Boring at 6.0 ft Borehole Backfilled with Drill Cuttings.			
				10				
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 10/9/96 End 10/9/96
Driller TSC Chief Bob Rig Mobile
Logger DAP Editor TJK B-57
Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **TB19**

Job No. **3920.0041**

Sheet **1 of 2**

Surface Elevation

Northing: **181.2**

Easting: **-357.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	10	M	75		Dark Brown to Black, Silty CLAY (TOPSOIL)	--		
2	16	M	71		Loose to Very Dense, Brown, Fine to Coarse SAND and GRAVEL (SP/GP)	--		
3	4	M	31			--		
4	6	M	24			--		
5	18	M	13		Loose to Very Dense, Brown to Rust, Fine to Coarse SAND and GRAVEL, Little Clay (SP-SC/GP-SC)	--		
6	4	M	7		Loose to Very Dense, Clayey SAND and GRAVEL (SC/GC)	--		
7	16	W/M	4			--		
8	22	M	14		Loose to Very Dense, Gray, Sandy CLAY, Trace to Little, Fine to Coarse Gravel (CL)	0.5		
					Loose to Very Dense, Gray CLAY, Trace Fine to Coarse Sand and Gravel (CL)	>4.0		

WATER LEVEL OBSERVATIONS

While Drilling ☐ ft. Upon Completion of Drilling ☐ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start 10/9/96 End 10/9/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

Location DuPage County, Illinois

Boring No. TB19
Job No. 3920.0041
Sheet 2 of 2
Surface Elevation
Northing: 181.2
Easting: -357.9

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					End of Boring at 16.0 ft Borehole Backfilled with Drill Cuttings.			
				20				
				25				
				30				

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **TB20**

Job No. **3920.0041**

Sheet **1 of 1**

Surface Elevation

Northing: **180.3**

Easting: **-158.1**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
1	20	M	24		Dark Brown, Silty CLAY (TOPSOIL)			
					Medium Dense, Gray Brown, Silty CLAY, Little Fine to Coarse Gravel (CL)			
					Medium Dense, Fine SAND and SILT from 1.2 to 1.5 ft			
2	20	M	27		Brown, Silty CLAY (CL-ML)			
					Gray SILT, Some Clay (ML)			
3	22	M	28		Hard, Gray and Gray Brown, Silty CLAY, Some Sand, Trace Fine to Coarse Gravel and Sand (CL-ML)	> 4.0		
4	22	M	40			> 4.0		
					End of Boring at 8.0 ft			
					Borehole Backfilled with Drill Cuttings.			

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

GENERAL NOTES

Start 10/9/96 End 10/9/96
 Driller TSC Chief Bob Rig Mobile
 Logger DAP Editor TJK B-57
 Drill Method 2 1/4" I.D. HSA

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

EXTRACTION WELL LOGS

MONTGOMERY WATSON



LOG OF TEST BORING

Project Blackwell Landfill - NPL Site
Location DuPage County, Illinois

Boring No. **EW01**
Job No. **3920.0041**
Sheet **1 of 3**
Surface Elevation **753.5**
Northing: **859.5**
Easting: **-1295.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)	M		
					Brown SAND, GRAVEL and COBBLES, Wet (SP/GP)			
				5			M/W	
							W	
							W	
				10	MUNICIPAL WASTE: Black Stained Clay Intermixed with Municipal Waste; Plastic, Paper, Small Pieces of Wood, Tin Cans, Hub Cap, Low to Moderate Decomposition, Moist	M		
							M	
					Brown SAND and GRAVEL Cover (SP/GP)			
					MUNICIPAL WASTE: Wood, Paper, Plastic, Rubber Tires, Tin Cans, Low to Moderate			
				15				

WATER LEVEL OBSERVATIONS

While Drilling 8.08.0ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 6/10/96 End 6/10/96
Driller Terra Chief Steve Rig AF10
Logger DAP Editor TJK
Drill Method

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW01**

Job No. **3920.0041**

Sheet **2 of 3**

Surface Elevation **753.5**

Northing: **859.5**

Easting: **-1295.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Decomposition, Saturated at 16 ft	M/W		
				20		W		
						W		
					MUNICIPAL WASTE from 23 to 25 ft, Intermixed with Sand, Clay, Gravel, Cover Material, Moist	M		
				25	MUNICIPAL WASTE from 25 to 28 ft: Newspaper, Plastic, Tin Cans, Saturated	W		
						W/M		
				30	MUNICIPAL WASTE: Newspaper, Plastic, Tin Cans, Saturated	M/W		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW01**

Job No. **3920.0041**

Sheet **3 of 3**

Surface Elevation **753.5**

Northing: **859.5**

Easting: **-1295.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						W		
				35	Gray Gravelly CLAY, Cover Soils, Moist (CL)	M/W		
					MUNICIPAL WASTE: Newspaper, Plastic, Tin Cans, Moist			
						W		
				40		M/W		
					Light Brown, Sandy CLAY, Moist (CL)			
					MUNICIPAL WASTE	M		
					Blue Gray, Silty CLAY, Gravel (CL-ML)			
				45		M		
					End of Boring at 46.0 ft Extraction Well Installed to 44.5 ft			

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW01A**
Job No. **3920.0041**
Sheet **1 of 3**
Surface Elevation **751.8**
Northing: **864.3**
Easting: **-1241.4**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					TOPSOIL and Black CLAY (Cover Soils) (CL)	M		
					Light Brown SAND and GRAVEL, Some Cobbles, Scattered Boulders (Cover Soils), Wet (SP/GP)	M		
				5		M/W		
						W		
				10		W/M		
					Gray, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)	M		
					MUNICIPAL WASTE: Fabric, Clothing, Paper, Plastic, Tin Cans Intermixed with Cover Material			
				15				

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ 6.0 ft. Upon Completion of Drilling ∇ _____ ft. Start 6/10/96 End 6/10/96
Time After Drilling _____ Driller Terra Chief Steve Rig AF10
Depth to Water _____ Logger DAP Editor PMS
Depth to Cave in _____ Drill Method _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW01A**
 Job No. **3920.0041**
 Sheet **2 of 3**
 Surface Elevation **751.8**
 Northing: **864.3**
 Easting: **-1241.4**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						M		
						M		
					MUNICIPAL WASTE: Small Pieces of Broken Glass, Leaves, Plastic, Wiring, Shoes, Tin Cans			
				20	Gray, Silty CLAY, Some Gravel (Cover Soil) (CL-ML)	M		
						M		
					MUNICIPAL WASTE: Mixture of Cover Material (90%) with Municipal Waste; Paper, Plastic, Small Pieces of Wood (10%)			
				25	Higher Percentage of Waste (30%) and Cover Material (70%)	M		
						M		
					90% Waste at 27 ft; Small Pieces of Wood, Plastic, Paper Products, Wet			
				30		W/M		
					Gray, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)			

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW01A**
Job No. **3920.0041**
Sheet **3 of 3**
Surface Elevation **751.8**
Northing: **864.3**
Easting: **-1241.4**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					MUNICIPAL WASTE: Large Pieces of Wood, Broken up Tree Stumps, Low to Moderate Decomposition	M		
				35		M/W		
					Brown Clayey SAND and GRAVEL (Cover Soils) (SC/GC)	M/D		
				40		M/W		
					MUNICIPAL WASTE: Brown, Clayey Sand and Gravel Cover Material Mixed with Some Municipal Waste; Garbage, Paper, Plastic, Tin Cans	M		
				45		M		
					Gray-Blue, Silty CLAY, Little Fine Gravel (CL-ML)			
					End of Boring at 47.0 ft Extraction Well Installed to 44.5 ft			

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW02**
Job No. **3920.0041**
Sheet **1 of 6**
Surface Elevation **792.4**
Northing: **580.7**
Easting: **-1260.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown to Black Silty CLAY Cover Material (CL-ML)	M		
					Gray to Gray Blue CLAY, Some Gravel (Cover Soils) (CL)			
				5		D/M		
				10		D/M		
				15		D/M		

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ☒ ft. Upon Completion of Drilling ☒ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start 5/28/96 End 5/29/96
Driller Terra Chief Steve Rig AF10
Logger DAP Editor PMS
Drill Method _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW02**

Job No. **3920.0041**

Sheet **2 of 6**

Surface Elevation **792.4**

Northing: **580.7**

Easting: **-1260.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						D/M		
						D/M		
				20	Light Brown SAND and GRAVEL, Cobbles, Some Clay (Cover Soils) (SC/GC)	M		
						M		
				25		M		
						M		
				30		M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW02**
Job No. **3920.0041**
Sheet **3 of 6**
Surface Elevation **792.4**
Northing: **580.7**
Easting: **-1260.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	TYPE	Rec. (in.)	Mois- ture	N Value	Depth (ft.)	qu (qa) (tsf)	PID (ppm)	Remarks
						M		
					35	M		
						D/M		
					40	M		
						W		
					45	W		
						W/M		

MUNICIPAL WASTE: Newspaper, Fabric,
Moderate Decomposition, Intermixed with
Sand, Gravel and Clay, Alot of Cover Material,
Sand, Gravel, Mixed in with Municipal Plastic,
Paper, Fabric, Fencing, Blue Jeans, Pieces of
Wood, T-Shirts, Wet

MUNICIPAL REFUSE: Moderately
Decomposed

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW02**
Job No. **3920.0041**
Sheet **4 of 6**
Surface Elevation **792.4**
Northing: **580.7**
Easting: **-1260.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Not as Saturated			
				50	MUNICIPAL WASTE: Paper, Tin Cans, Fabric (Clothing), Plastic, Wood, Wiring, intermixed with Sandy Clay Soils	M/W		
						M		
				55	MUNICIPAL WASTE: Wood, Fencing Debris, Some Black Staining on Wood Debris (Possible Tree Stump), Moderate Decomposition	W		
						W		
				60				
				65	DALY SAND & GRAVEL (Cover Material), Not Very Moist	D		

MONTGOMERY WATSON



LOG OF TEST BORING

Project Blackwell Landfill - NPL Site

Location DuPage County, Illinois

Boring No. **EW02**
 Job No. 3920.0041
 Sheet 5 of 6
 Surface Elevation 792.4
 Northing: 580.7
 Easting: -1260.7

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				70	MUNICIPAL WASTE: Paper, Plastic, Intermixed with Gray Silt, Sand and Gravel, Little More Moist, but Not Saturated, Pieces of Carpeting, Small Pieces of Glass, Some Steel and Tin Cans	M/D		
				75	More Gravel in Sand Mixture, Less Waste, More Moisture	M/D		
				80	Some Plastic, Possible Lawn Cuttings, Plastic, Brick, Wet	W		

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW02**
 Job No. **3920.0041**
 Sheet **6 of 6**
 Surface Elevation **792.4**
 Northing: **580.7**
 Easting: **-1260.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						W		
				85	Brown and Gray Mottled, Silty CLAY with Fine to Coarse Sand and Gravel (CL-ML)	M		
					End of Boring at 86.0 ft Extraction Well Installed to 83.5 ft			
				90				
				95				

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW03**
Job No. **3920.0041**
Sheet **1 of 5**
Surface Elevation **769.8**
Northing: **598.3**
Easting: **-954.8**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES			
No.	mm	Rec. (in.)	Mois- ture	N Value		Depth (ft.)	qu (qa) (tsf)	PID (ppm)	Remarks
						Dark Brown, Silty CLAY Cover (Cover Soils) (CL-ML)		M	
						Brown, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)			
						Gray, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)		M	
					5			M	
								M	
					10	Gray SAND and GRAVEL, Some Silt, COBBLE Zone (Cover Material) (SM/GM)		M	
						Gray, Silty CLAY, Some Gravel, COBBLES (Cover Soils) (CL-ML)			
								M	
					15				

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 6/12/96 End 6/12/96
Driller Terra Chief Steve Rig AF10
Logger DAP Editor PMS
Drill Method

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW03**
Job No. **3920.0041**
Sheet **2 of 5**
Surface Elevation **769.8**
Northing: **598.3**
Easting: **-954.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						M		
					MUNICIPAL WASTE: Fabric, Pieces of Wood, Garbage, Paper, Plastic, Cans, Low Decomposition	D/M		
					Brown SAND and GRAVEL, Some Clay (Cover Material) (SC/GC)	M/W		
				20	Yellow to Olive Brown CLAY (Cover Material) (CL)	W/M		
					Gray CLAY, Some Gravel, Few Cobbles (Cover Material), Wet			
					Orange-Brown to Brown SAND and GRAVEL, Some Clay Zones in Cover Material (SP/GP)	M		
					Yellow-Brown SAND and GRAVEL			
				25		M		
						M		
						M		
				30	Dark Gray, Silty CLAY, Some Gravel (Cover Material) (CL-ML)	M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW03**

Job No. **3920.0041**

Sheet **3 of 5**

Surface Elevation **769.8**

Northing: **598.3**

Easting: **-954.8**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					MUNICIPAL WASTE: Large Pieces of Wood, Some Fabric Intermixed with Gray Clay Cover	M		
					MUNICIPAL WASTE: Plastic, Newspaper, Pieces of Cardboard, Wiring, Low Decomposition, Decomposition more Moderate at 35 ft	D/M		
				35		D/M		
						D/M		
						D/M		
				40		D/M		
						D/M		
					MUNICIPAL WASTE: Paper, Plastic, Wood, Grass Clippings, Leaves, Low to Moderate Decomposition	M/W		
				45				
					MUNICIPAL WASTE: Construction Debris, Small Pieces of Concrete, Wood, Black Staining, Wet	W		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW03**
Job No. **3920.0041**
Sheet **4 of 5**
Surface Elevation **769.8**
Northing: **598.3**
Easting: **-954.8**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Newspaper dated October 1966			
				50	Gray CLAY, Some Sand and Gravel Intermixed (Cover Material) (CL)			
					MUNICIPAL WASTE: Newspaper, Cardboard, Plastic, Grass Clippings, Low to Moderate Decomposition, Small Propane Cannister at 52 ft, Cover Material Intermixed (Clay, Gravel) Between 51 and 55 ft, 60% Cover, 40% Waste	D/M		
						D/M		
				55		D/M		
						D/M		
				60	Pieces of Concrete at 60 ft (Construction Debris)	M/W		
						W/M		
				65	Blue-Gray, Silty CLAY, Some Fine Gravel (CL-ML)	M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW03**
Job No. **3920.0041**
Sheet **5 of 5**
Surface Elevation **769.8**
Northing: **598.3**
Easting: **-954.8**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE

No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)
-----	---------------	---------------	------------	----------------

VISUAL CLASSIFICATION and Remarks

SOIL PROPERTIES

qu (qa) (tsf)	PID (ppm)	Remarks
---------------------	--------------	---------

End of Boring at 66.0 ft
Extraction Well Installed to 64.0 ft

70

75

80

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW04**
 Job No. **3920.0041**
 Sheet **1 of 9**
 Surface Elevation **836.9**
 Northing: **330.0**
 Easting: **-1307.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Black, Silty CLAY (Topsoil Cover) (CL-ML)	M		
					Gray to Gray-Blue, Silty CLAY, Fine to Coarse Sand and Gravel (Cover Soils) (CL-ML)	M		
				5		M		
						M		
					Gray CLAY, Some Sand and Gravel, Boulders, Cobble (Cover Soils) (CL)	D		
				10		D		
						D		
				15				

WATER LEVEL OBSERVATIONS

While Drilling 122.0 ft. Upon Completion of Drilling _____ ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

GENERAL NOTES

Start 5/29/96 End 5/30/96
 Driller Terra Chief Steve Rig AF10
 Logger DAP Editor PMS
 Drill Method _____

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW04**
Job No. **3920.0041**
Sheet **2 of 9**
Surface Elevation **836.9**
Northing: **330.0**
Easting: **-1307.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						D		
						D		
				20-		D		
						D		
				25-		D		
						D		
						D		
				30-	Becomes More of a Gray-Brown to Gray in Color, Boulder and Cobbles Still Present, (Cover Soils)	D		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW04**
Job No. **3920.0041**
Sheet **3 of 9**
Surface Elevation **836.9**
Northing: **330.0**
Easting: **-1307.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						D		
				35		D		
						D		
				40		D		
						M		
				45		M		
						M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW04**
Job No. **3920.0041**
Sheet **4 of 9**
Surface Elevation **836.9**
Northing: **330.0**
Easting: **-1307.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				50	Gray CLAY, Some Sand and Gravel Cobble, Boulder (Cover Soils), Moist	M/D		
						M/D		
				55	Gray CLAY, Some Sand and Gravel Cobbles, Boulders (Cover Soils), Moist	D/M		
						D/M		
				60		D/M		
						D/M		
				65	MUNICIPAL WASTE: Carpeting, Wood, Paper, Plastic Wrappers, Low to Moderate Decomposition	D/M		



Location DuPage County, Illinois

Boring No. **EW04**
Job No. **3920.0041**
Sheet **5 of 9**
Surface Elevation **836.9**
Northing: **330.0**
Easting: **-1307.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				70	MUNICIPAL WASTE: Lots of Wood, Metal, Fence Posts, Construction-Like Debris	D/M		
				75	Light Brown SAND and GRAVEL (Cover Material) (SP/GP)	D/M		
				80	MUNICIPAL WASTE: Paper, Wood, Metal	D/M		
					MUNICIPAL WASTE: Paper, Plastic, Fabric, Metal (Cover Material)	D/M		

Project **Blackwell Landfill - NPL Site**

Location DuPage County, Illinois

Boring No. **EW04**
Job No. **3920.0041**
Sheet **6 of 9**
Surface Elevation **836.9**
Northing: **330.0**
Easting: **-1307.7**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				85		D/M		
						D/M		
						D/M		
				90	CLAY, Some Gravel (Cover Material) (CL)			
					MUNICIPAL WASTE: Paper, Plastic, Wood, Pieces of Metal, Intermixed with Silt, Sand, Gravel and Cobbles	D/M		
						D/M		
				95		D/M		
						D/M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW04**
 Job No. **3920.0041**
 Sheet **7 of 9**
 Surface Elevation **836.9**
 Northing: **330.0**
 Easting: **-1307.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				100	MUNICIPAL WASTE: Wood, Paper, Glass, Fabric, Metals, Moderate Decomposition MUNICIPAL WASTE: Wood, Paper, Plastic, Glass, Fabric, Metal with Gray Silt, Sand, Gravel, Clay, Small Cobble, Moderately Decomposed Mixture of Municipal Waste and Cover (Approximately 50/50%)	D/M		
						D/M		
				105		D/M		
						D/M		
				110		D/M		
						D/M		
				115		D/M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**

Boring No. **EW04**
Job No. **3920.0041**
Sheet **8 of 9**
Surface Elevation **836.9**
Northing: **330.0**
Easting: **-1307.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Grading to Moist	D/M		
				120		M/W		
				125	MUNICIPAL WASTE: Plastic, Cardboard, Paper, Plastic, Pieces of Wood, Small Pieces of Glass, Moderately Decomposed	W		
						W		
				130		W/M		
					Gray-Blue, Silty CLAY, Some Sand (CL-ML)			
					Gray-Blue, Silty CLAY, Some Sand and Fine Gravel (CL-ML)	M		

Location DuPage County, Illinois

Boring No. **EW04**
Job No. **3920.0041**
Sheet **9 of 9**
Surface Elevation **836.9**
Northing: **330.0**
Easting: **-1307.7**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				135	End of Boring at 133.0 ft Extraction Well Installed to 131.0 ft			
				140				
				145				
				150				

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW05**
Job No. **3920.0041**
Sheet **1 of 7**
Surface Elevation **809.2**
Northing: **333.4**
Easting: **-1037.0**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Brown, Silty CLAY (Cover Soils) (CL-ML)	M		
					Gray, Silty CLAY, Some Gravel, Small Cobbles (Cover Soils) (CL-ML)	D/M		
				5		D/M		
				10		D/M		
				15		D/M		

WATER LEVEL OBSERVATIONS

GENERAL NOTES

While Drilling ∇ **47.0** ft. Upon Completion of Drilling ∇ _____ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

Start **6/11/96** End **6/11/96**
Driller **Terra** Chief **Steve** Rig **AF10**
Logger **DAP** Editor **PMS**
Drill Method _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW05**
 Job No. **3920.0041**
 Sheet **2 of 7**
 Surface Elevation **809.2**
 Northing: **333.4**
 Easting: **-1037.0**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						D/M		
						D/M		
				20		D/M		
					Gray-Brown, Silty CLAY, Some Gravel Cobbles (Cover Soils) (CL)			
						D/M		
				25		D/M		
					Gray, Silty CLAY, Some Gravel, Cobbles (Cover Soils) (CL)			
						D/M		
					Yellow-Brown SAND and GRAVEL, Some Cobbles, Little Clay (Cover Soils) (SP/GP)			
				30		D/M		
					Gray, Silty CLAY, Some Gravel, Small Cobble to Large Cobble/Boulder (Cover Soils) (CL-ML)			
					Gray and Brown to Yellow-Brown, Silty			

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW05**
 Job No. **3920.0041**
 Sheet **3 of 7**
 Surface Elevation **809.2**
 Northing: **333.4**
 Easting: **-1037.0**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					CLAY, Some Sand and Gravel (Cover Soils) (CL)	D/M		
				35		D/M		
						D/M		
				40		D/M		
						D/M		
						D/M		
				45	MUNICIPAL WASTE: Black Staining, Pieces of Wood and Plastic	D/M		
					MUNICIPAL WASTE: Bricks, Paper, Pieces of Concrete, Metal Stripping, Wet	W		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW05**
 Job No. **3920.0041**
 Sheet **4 of 7**
 Surface Elevation **809.2**
 Northing: **333.4**
 Easting: **-1037.0**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				50		W		
						M/W		
					Gray, Silty CLAY (Cover Material) (CL-ML)			
				55	MUNICIPAL WASTE: Demolition Waste Intermixed with Clay, Gravel (Cover Material), Moderate Decomposition, Very Wet - Sloppy	W		
						W		
				60	MUNICIPAL WASTE: Garbage, Plastic, Paper, Fabric, Clothing, 50% Cover Material and 50% Garbage Material	W		
						W		
				65	MUNICIPAL WASTE: Paper, Plastic	W		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW05**
 Job No. **3920.0041**
 Sheet **5 of 7**
 Surface Elevation **809.2**
 Northing: **333.4**
 Easting: **-1037.0**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				70	MUNICIPAL WASTE: Difficult to Distinguish Waste, So Wet and Sloppy	W		
				75	MUNICIPAL WASTE: Shoes, Fabric, Plastic, Paper, Tin Cans	W		
				80	MUNICIPAL WASTE: Fibrous, Wood-Like Materials, Possible Demolition Debris	W		

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**
Location **DuPage County, Illinois**





2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW05**
Job No. **3920.0041**
Sheet **6 of 7**
Surface Elevation **809.2**
Northing: **333.4**
Easting: **-1037.0**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						M		
				85	Gray, Silty CLAY, Some Gravel (Cover Material) (CL-ML), Not Native	M		
					Gray, Silty CLAY, Some Gravel (Cover Material) (CL-ML)	M		
				90		M/W		
					MUNICIPAL WASTE: Plastic, Paper, Wood, Fibrous Material (Wood-Like)	W		
				95	MUNICIPAL WASTE: Metal Springs, Wiring, Metal, Paper, Plastic, Cobbles	W		
						W		

Location **DuPage County, Illinois**

Boring No. **EW05**
Job No. **3920.0041**
Sheet **7 of 7**
Surface Elevation **809.2**
Northing: **333.4**
Easting: **-1037.0**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				100	 MUNICIPAL WASTE: Wood, Paper, Plastic, Metal Stripping Intermixed with Clay, Gravel		W/M	
							W/M	
				105	 Gray CLAY, Some Gravel, Intermixed with Wood-Like, Fibrous Material (CL)		M	
					End of Boring at 107.5 ft Extraction Well Installed to 105.0 ft			
				110				
				115				

**MONTGOMERY
WATSON**

LOG OF TEST BORING

 Project **Blackwell Landfill - NPL Site**

 Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

 Boring No. **EW06**

 Job No. **3920.0041**

 Sheet **1 of 4**

 Surface Elevation **760.0**

 Northing: **224.3**

 Easting: **-772.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (Cover Soils) (CL-ML) 6" Brown Sand, Gravel and Cobbles to 1 ft	M		
						M		
				5	Dark Gray, Silty CLAY, Gravel (Cover Soils) (CL-ML) Layer of Straw at 4 ft	M		
						M		
					Gray, Silty CLAY, Some Gravel and Cobbles, Then Grades into Brown CLAY, Some Gravel (Cover Soils) (CL-ML)	M		
				10		D/M		
					MUNICIPAL WASTE: Paper, Plastic, Wood, Fabric, Shoes, Tin Cans, Low to Moderate Decomposition	D/M		
					Gray Brown SAND and GRAVEL, Some Cobbles (Cover Soils) (SP/GP)			
				15	MUNICIPAL WASTE: Paper, Plastic,			

WATER LEVEL OBSERVATIONS
GENERAL NOTES

 While Drilling ft. Upon Completion of Drilling ft.
 Time After Drilling _____
 Depth to Water _____
 Depth to Cave in _____

 Start **6/13/96** End **6/13/96**
 Driller **Terra** Chief **Steve** Rig **AF10**
 Logger **DAP** Editor **PMS**
 Drill Method _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW06**
Job No. **3920.0041**
Sheet **2 of 4**
Surface Elevation **760.0**
Northing: **224.3**
Easting: **-772.2**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Cardboard, Metal, Wiring, Grass Cuttings	D/M		
						D/M		
				20		D/M		
					MUNICIPAL WASTE: Grass Clippings, Thin Strips of Wood, Some Black Staining, Rubber Tire	D/M		
				25		D/M		
					MUNICIPAL WASTE: Metal Strapping, Coils, Pieces of Wood, 78-Speed Records, Metal Piping, Cardboard, Tires, Crushed Drum	D/M		
						D/M		
				30		D/M		
					Gray, Brown SAND and GRAVEL, Some Clay (Cover Soils) (SC/GC)			
					MUNICIPAL WASTE: 70% Cover Material mixed with Paper, Plastic			

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW06**
Job No. **3920.0041**
Sheet **3 of 4**
Surface Elevation **760.0**
Northing: **224.3**
Easting: **-772.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						D/M		
				35	MUNICIPAL WASTE: Paper, Shoes, Rubber, Lawn/Garden Hose, Cardboard, Metal Stripping	D/M		
						D/M		
					Gray CLAY (Cover Soils) (CL)			
				40	MUNICIPAL WASTE: Plastic Sheeting, Pieces of Metal, Fabric, Springs	D/M		
						D/M		
					Dark Gray Silty CLAY, Some Gravel (Cover Soils) (CL-ML)			
					MUNICIPAL WASTE			
				45		D/M		
					Gray CLAY (Cover Soils) (CL)			
					MUNICIPAL WASTE	D/M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW06**
 Job No. **3920.0041**
 Sheet **4 of 4**
 Surface Elevation **760.0**
 Northing: **224.3**
 Easting: **-772.2**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				50	Gray CLAY, Some Gravel (Cover Soils) (CL)			
					MUNICIPAL WASTE: Plastic, Paper, Cardboard, Wood	M		
				55		M		
					Gray, Silty CLAY, Little Fine Gravel (CL-ML)	M		
					End of Boring at 57.5 ft Extraction Well Installed to 55.5 ft			
				60				
				65				

MONTGOMERY WATSON



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW07**
Job No. **3920.0041**
Sheet **1 of 5**
Surface Elevation **772.9**
Northing: **457.3**
Easting: **-612.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (Cover Soils) (CL-ML)	M		
					Gray, Silty CLAY, Some Gravel, Some Cobbles (Cover Soils) (CL-ML)	M		
				5		M		
						M		
				10	Brown SAND and GRAVEL (Cover Soils) (SP/GP)	M		
					Dark Gray-Brown CLAY, Some Sand, Gravel and Cobbles (Cover Soils) (CL)	M		
				15	Dark Gray, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)			

WATER LEVEL OBSERVATIONS

While Drilling ft. Upon Completion of Drilling ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 6/12/96 End 6/12/96
Driller Terra Chief Steve Rig AF10
Logger DAP Editor PMS
Drill Method _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW07**
Job No. **3920.0041**
Sheet **2 of 5**
Surface Elevation **772.9**
Northing: **457.3**
Easting: **-612.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
						M		
					Yellow to Olive-Brown, Silty, Clayey SAND and GRAVEL, Some Cobbles (Cover Soils) (SC-SM/GC-GM)			
						M		
				20		M		
					Dark Brown and Gray, Silty CLAY (Cover Soil) (CL-ML)			
					MUNICIPAL WASTE: Trace of Demolition Waste, Pieces of Wood, Also Some Scattered Municipal Waste, Paper, Plastic, Fabric	M		
				25		M		
					Dark Gray, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)			
						D/M		
					MUNICIPAL WASTE: Small Pieces of Wood, Metal, Tin, Wiring, Cardboard, Plastic, Paper, Low Decomposition			
				30		D/M		
					Gray, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)			

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW07**
Job No. **3920.0041**
Sheet **3 of 5**
Surface Elevation **772.9**
Northing: **457.3**
Easting: **-612.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					MUNICIPAL WASTE	D/M		
				35	Dark Gray, Silty CLAY, Some Gravel and Cobbles (Cover Soils) (CL-ML)	M		
					MUNICIPAL WASTE	D/M		
				40	Dark Gray, Silty CLAY, Some Cobble and Gravel (Cover Soils) (CL-ML)	M		
					MUNICIPAL WASTE: Rubber Hose, Wiring, Clothing, Small Pieces of Glass, Aerosol Cannister, Low Decomposition	D/M		
				45	Waste Mixed with Gray Clay and Gravel (Cover Soils)	D/M		
					MUNICIPAL WASTE: Paper, Plastic, Cardboard, Fabric, Metal Bars, Stockings, Low Decomposition	D/M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW07**
Job No. **3920.0041**
Sheet **4 of 5**
Surface Elevation **772.9**
Northing: **457.3**
Easting: **-612.9**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				50	MUNICIPAL WASTE: White Paper Product with Brown Clay, Sand Gravel and Cobbles, Low Decomposition	D/M		
						D/M		
				55	MUNICIPAL WASTE: Metal Stripping, Brown Glass, Clothing, Paper (Catalogs), Some Black Staining, Moderate Decomposition	M		
						W		
				60	MUNICIPAL WASTE: Construction Debris, Metal Piping, Pieces of Wood, Wire Fencing, Metal Stripping, Numerous Pieces of Wood	W		
						W/M		
				65	Blue-Gray, Silty CLAY, Some Gravel (CL-ML)	M		

Location DuPage County, Illinois

Boring No. **EW07**
Job No. **3920.0041**
Sheet **5 of 5**
Surface Elevation **772.9**
Northing: **457.3**
Easting: **-612.9**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

[illegible]

MONTGOMERY WATSON



LOG OF TEST BORING

Project Blackwell Landfill - NPL Site

Location DuPage County, Illinois

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

Boring No. **EW08**
Job No. **3920.0041**
Sheet **1 of 4**
Surface Elevation **754.1**
Northing: **328.7**
Easting: **-301.1**

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Dark Brown, Silty CLAY (CL-ML)	M		
					Gray-Brown CLAY, Some Gravel (Cover Soils) (CL)			
				5		M		
						M		
				10		M/W		
					Brown CLAY, some Gravel and Cobbles (Cover Soils) (CL)			
						W		
				15				
					Brown SAND and Gravel, Some Cobbles, Little Clay (Cover Soils) (SP-SC/GP-SC)			

WATER LEVEL OBSERVATIONS

While Drilling ☒ ft. Upon Completion of Drilling ☐ ft.
Time After Drilling _____
Depth to Water _____
Depth to Cave in _____

GENERAL NOTES

Start 6/13/96 End 6/13/96
Driller Terra Chief Steve Rig AF10
Logger DAP Editor PMS
Drill Method _____

The stratification lines represent the approximate boundary between soil types and the transition may be gradual.

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW08**
 Job No. **3920.0041**
 Sheet **2 of 4**
 Surface Elevation **754.1**
 Northing: **328.7**
 Easting: **-301.1**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Gray, Silty CLAY, Some Gravel (Cover Soils) (CL-ML)	M		
						M		
				20		M		
						M		
				25		M		
					MUNICIPAL WASTE: Some Garbage, Municipal Mixed in with Cover Material, pieces of Wood, Fabric, Metal Stripping	M		
				30	Difficult Logging Borehole Rest of the Way Due to Hole Caving from Above and Liquids Flowing into the Borehole. Able to Identify Some Municipal Refuse in Auger Buckets, but Very Limited. Appears to be Primarily	M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW08**
Job No. **3920.0041**
Sheet **3 of 4**
Surface Elevation **754.1**
Northing: **328.7**
Easting: **-301.1**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
					Municipal Waste; Clothing, Fabric, Paper, Plastic, Intermixed with Clay and Gravel Cover Material	M		
				35		M		
						M		
				40		M		
						M		
				45		M		
					Appears to be in Native Blue-Gray, Silty CLAY, Difficult to tell due to Liquids in Borehole	M		

**MONTGOMERY
WATSON**



LOG OF TEST BORING

Project **Blackwell Landfill - NPL Site**

Location **DuPage County, Illinois**

Boring No. **EW08**
 Job No. **3920.0041**
 Sheet **4 of 4**
 Surface Elevation **754.1**
 Northing: **328.7**
 Easting: **-301.1**

2100 Corporate Drive, Addison, Illinois 60101, TEL. (708) 691-5000

SAMPLE					VISUAL CLASSIFICATION and Remarks	SOIL PROPERTIES		
No.	Rec. (in.)	Mois- ture	N Value	Depth (ft.)		qu (qa) (tsf)	PID (ppm)	Remarks
				50	Blue Gray, Silty CLAY, Some Gravel (CL-ML)			
				55	End of Boring at 51.0 ft Extraction Well Installed to 49.0 ft			
				60				
				65				

C



C

GEOPHYSICAL SURVEY RESULTS

Figure 1: Blackwell Landfill Site--Base Map

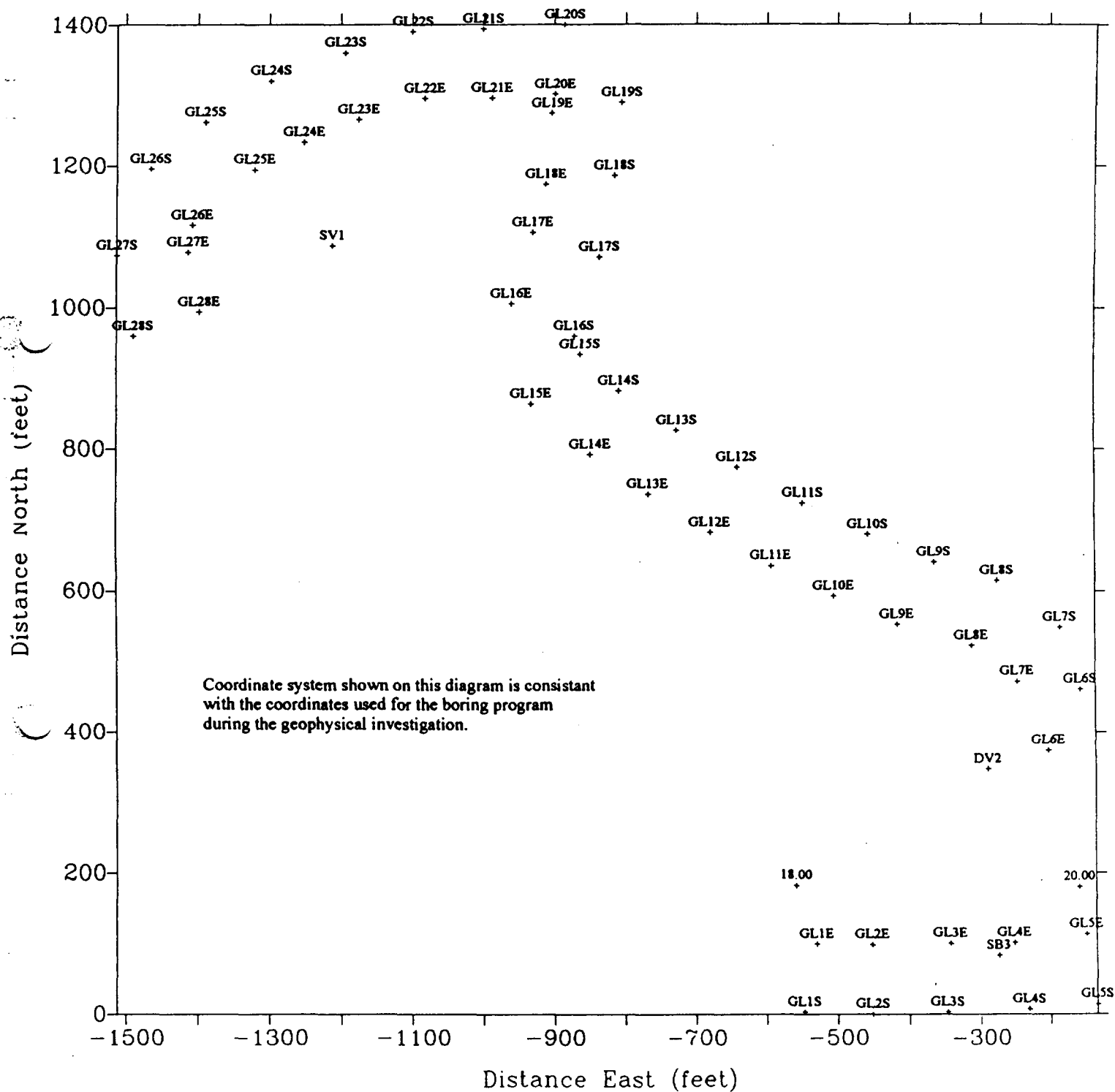


Table 1:Blackwell Landfill Site--Summary of Interpreted Results

Line	Stations approximating first 20 feet of transitional zone.	Magnetic agreement	Comments
GL1	40-60	Good	
GL2	20-40	Good	
GL3	30-50	Medium	
GL4	40-60	Good	
GL5	50-70	Good	
GL6	30-50	Poor	Line parallels drive.
GL7	50-70	Medium	No abrupt transitional zone.
GL8	50-70	Medium	No abrupt transitional zone.
GL9	30-50	Poor	At 75ft. on line a well is approx.25 ft.off line.
GL10	10-30	Poor	
GL11	0-20	Poor	
GL12	20-40	Poor	
GL13	20-40	Poor	0-15ft. is on top of a berm.
GL14	Not apparent.	Medium	No obviouse indication of background.
GL15	Not apparent.	Medium	No obviouse indication of background.
GL16	Not apparent.	Medium	No obviouse indication of background and passes through a short cyclone gate.
GL17	0-20	Medium	Readings at 0ft. may be effected by a short fence.
GL18	20-40	Poor	Well MH6 is near the 60 ft. mark.
GL19	20-40	Poor	Well SV5 is near the 90ft. mark.
GL20	30-50	Good	Line starts at edge of road and well DV9 is near the 60 ft. mark.
GL21	30-50	Good	Line starts at edge of road.
GL22	70-90	Medium	Line starts at edge of road with culvert near the 10ft. mark and a storm drain near the 80ft. mark.
GL23	50-70	Good	End of culvert approx. 20 ft. off line near the 90ft. mark.
GL24	Not apparent.	Good	No abrupt transitional zone.
GL25	50-70	Good	First 50ft. on top of a berm
GL26	20-40	Poor	First 50ft. on top of a berm
GL27	Not apparent.	Medium	No obviouse indication of background.
GL28	30-50	Poor	Firt 50ft. on top of berm with a large drainage basin near the 80ft. mark.

Figure 2: Blackwell Landfill Site—Geophysical Results for Line 1

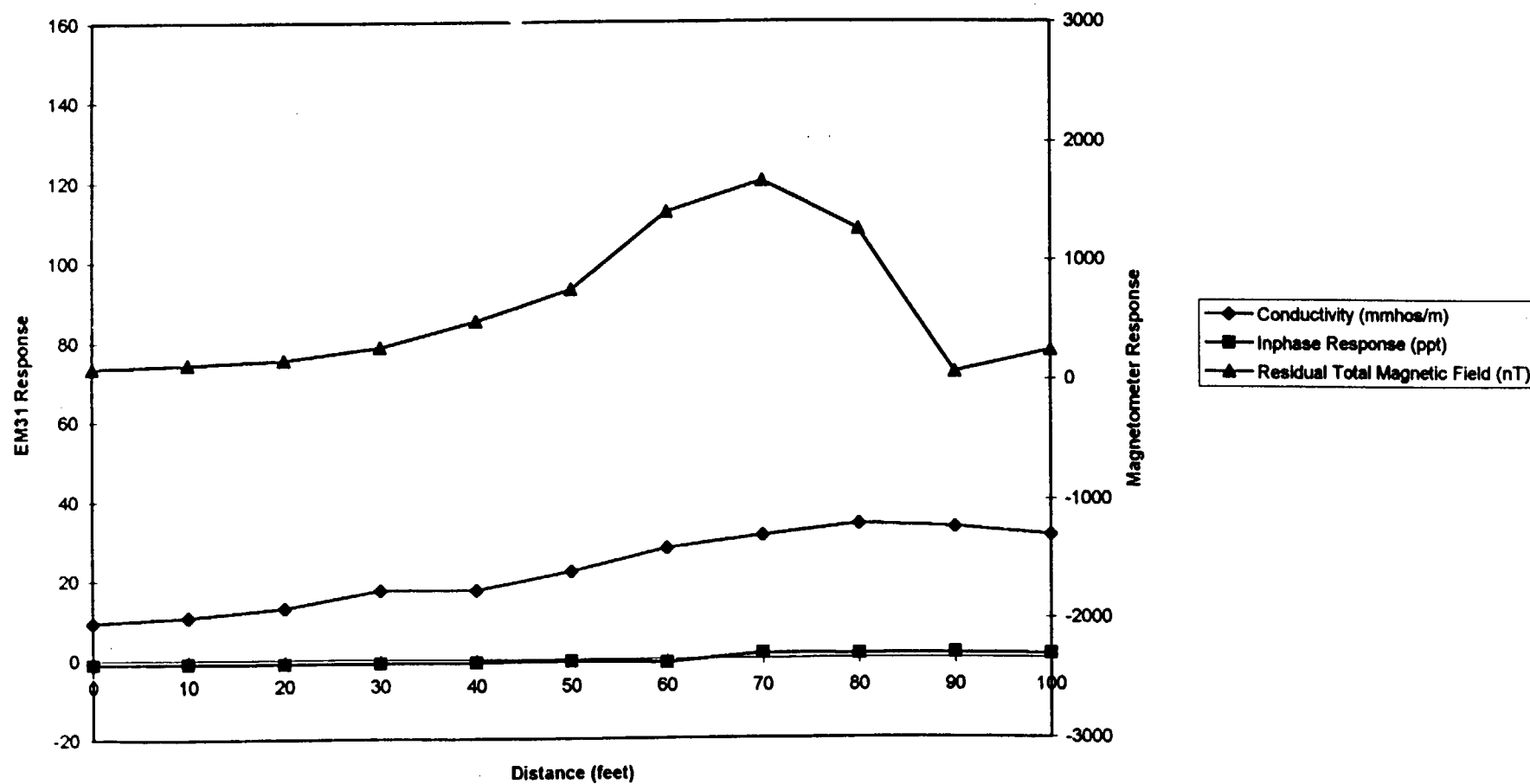


Figure 3: Blackwell Landfill Site--Geophysical Results for Line 2

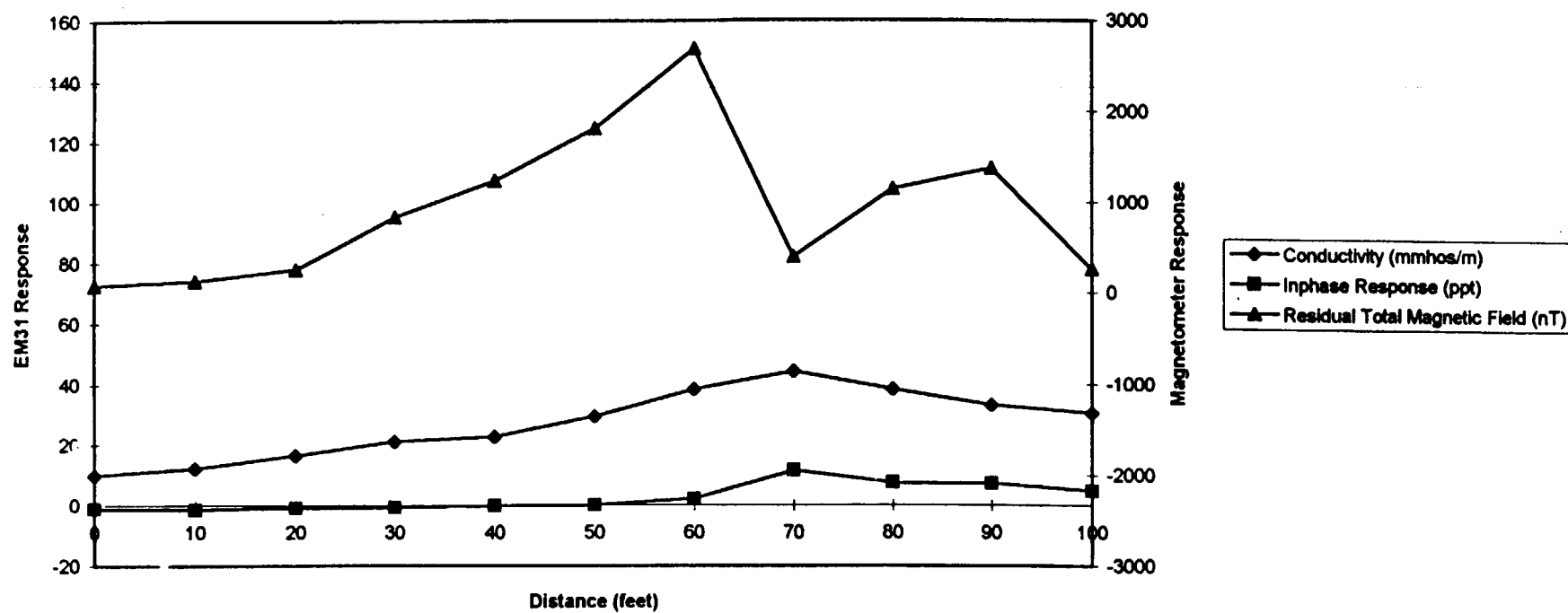


Figure 4: Blackwell Landfill Site—Geophysical Results for Line 3

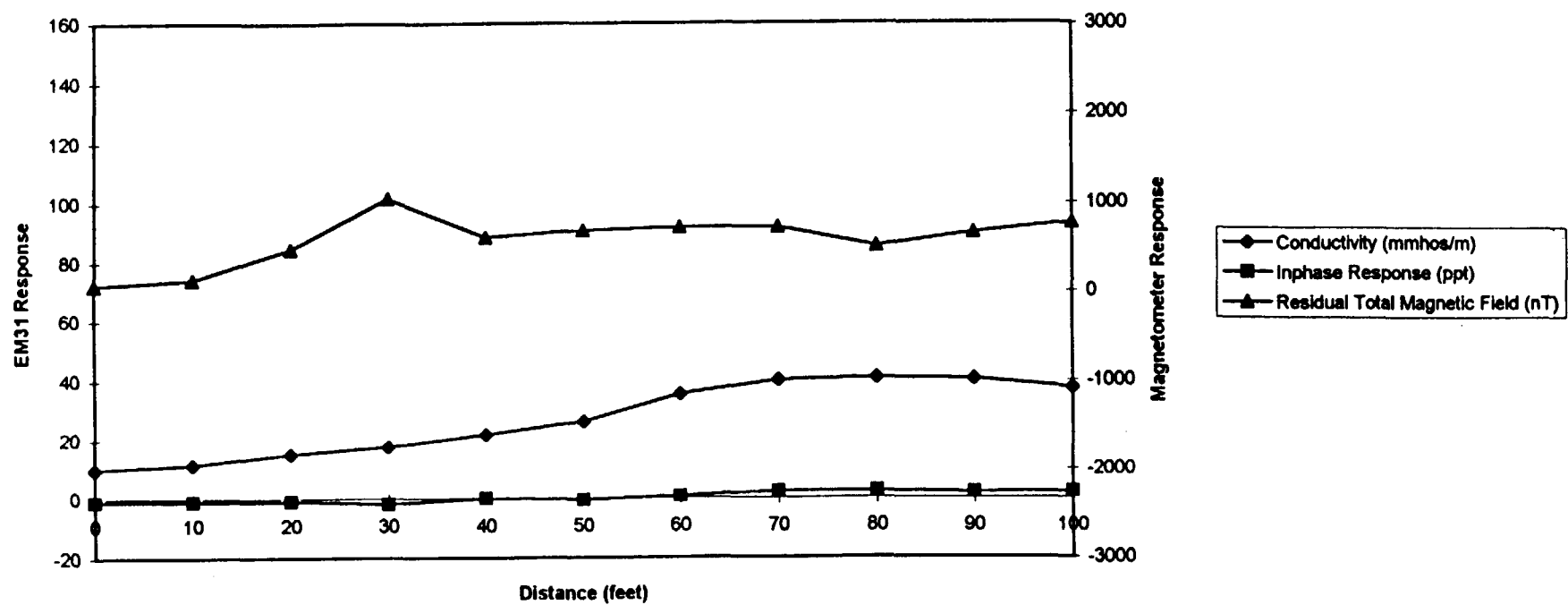


Figure 5: Blackwell Landfill Site—Geophysical Results for Line 4

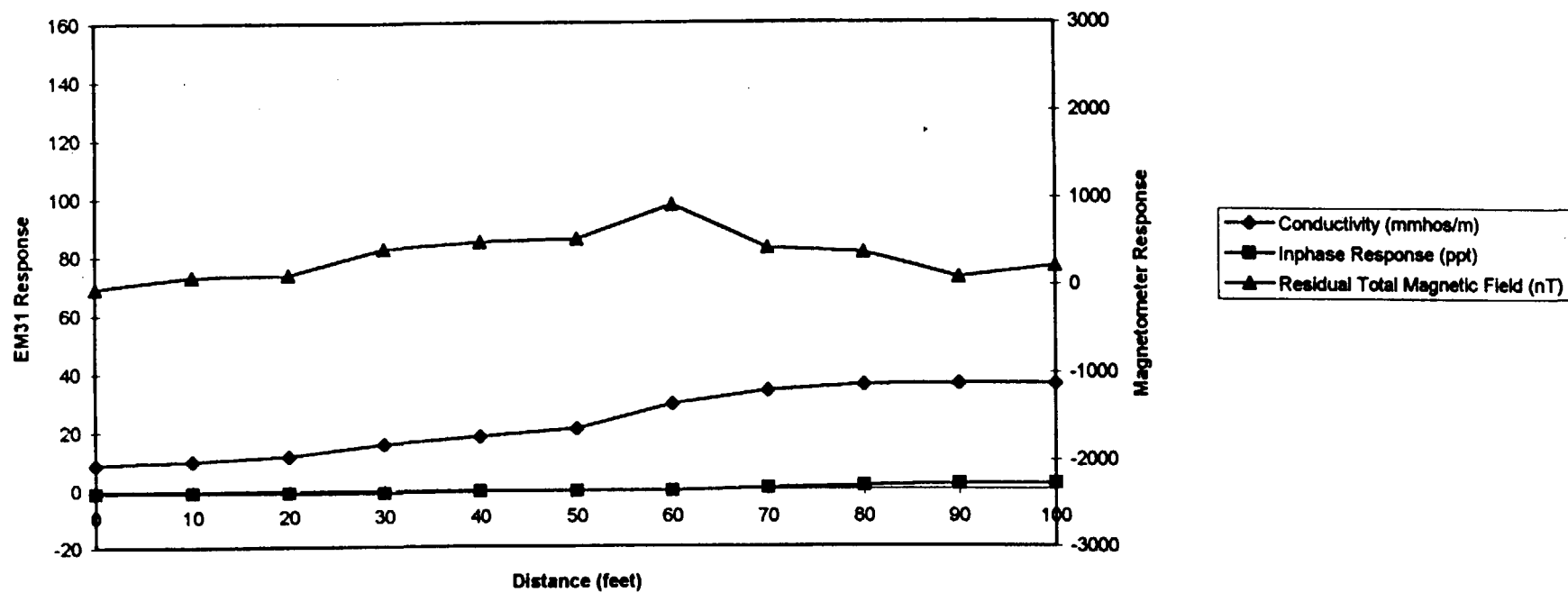


Figure 6: Blackwell Landfill Site--Geophysical Results for Line 5

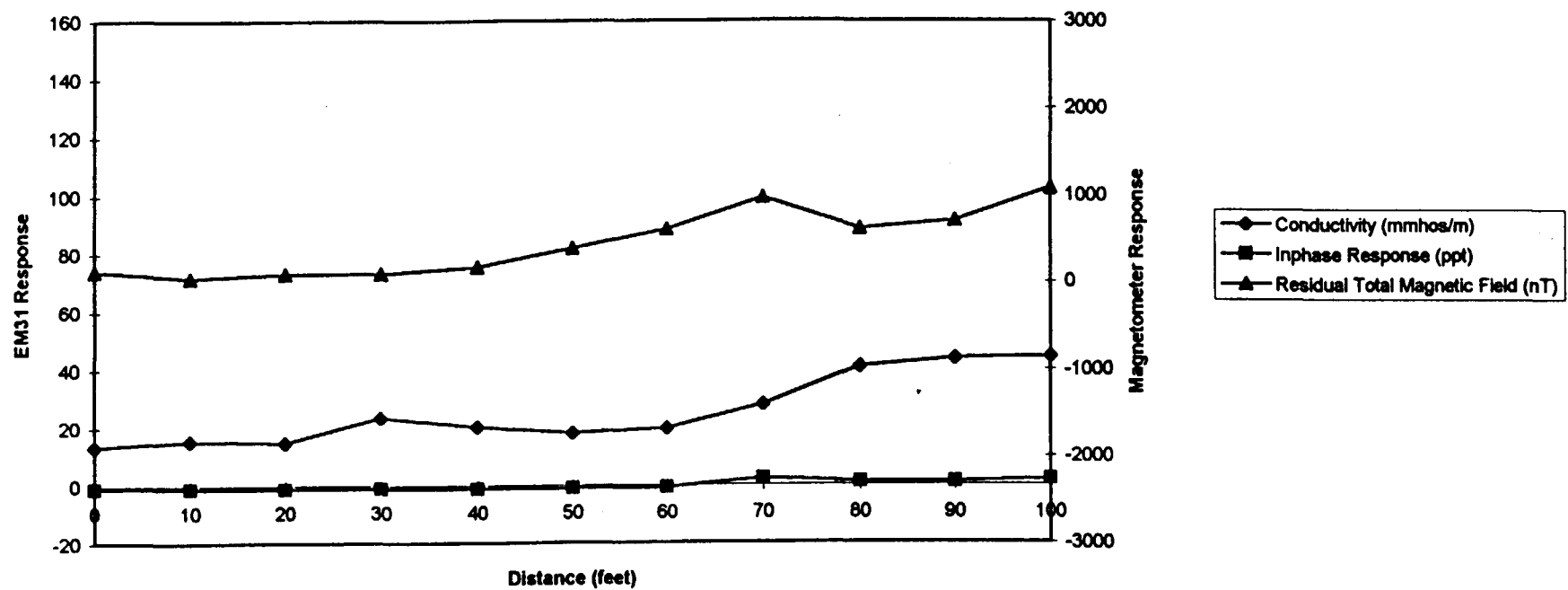


Figure 7: Blackwell Landfill Site—Geophysical Results for Line 6

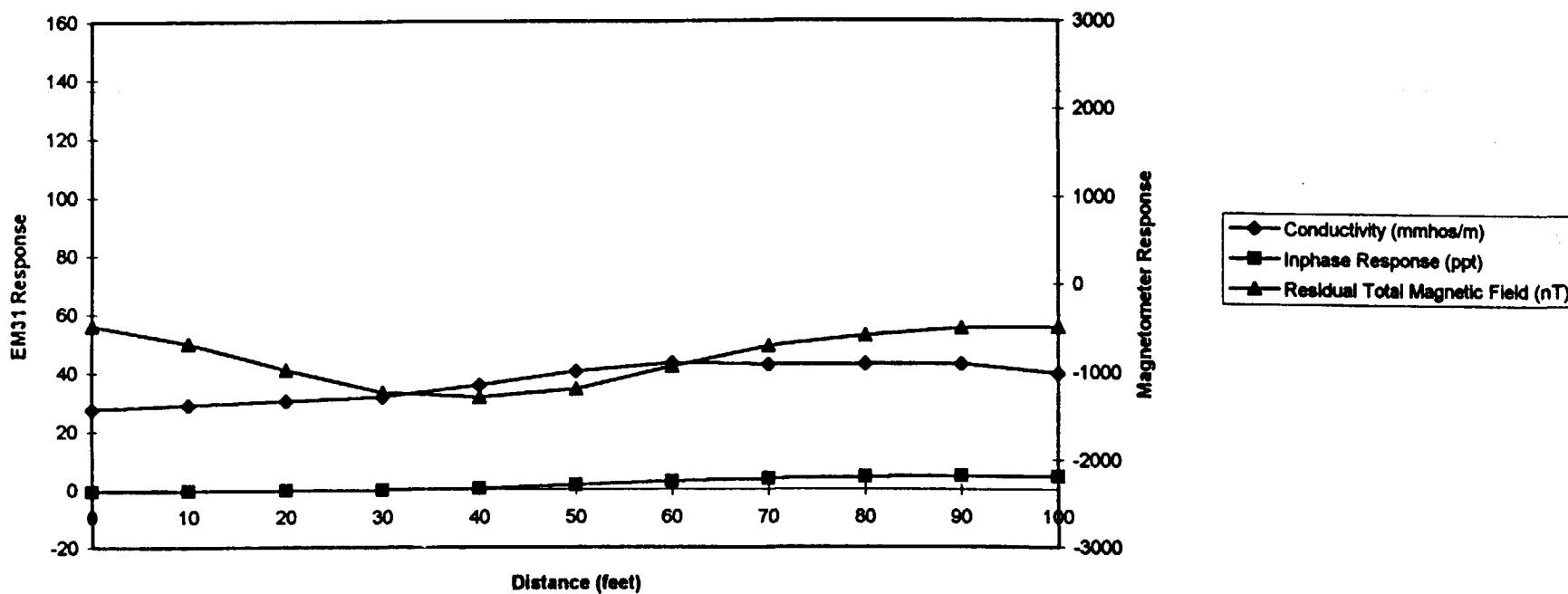


Figure 8: Blackwell Landfill Site—Geophysical Results for Line 7

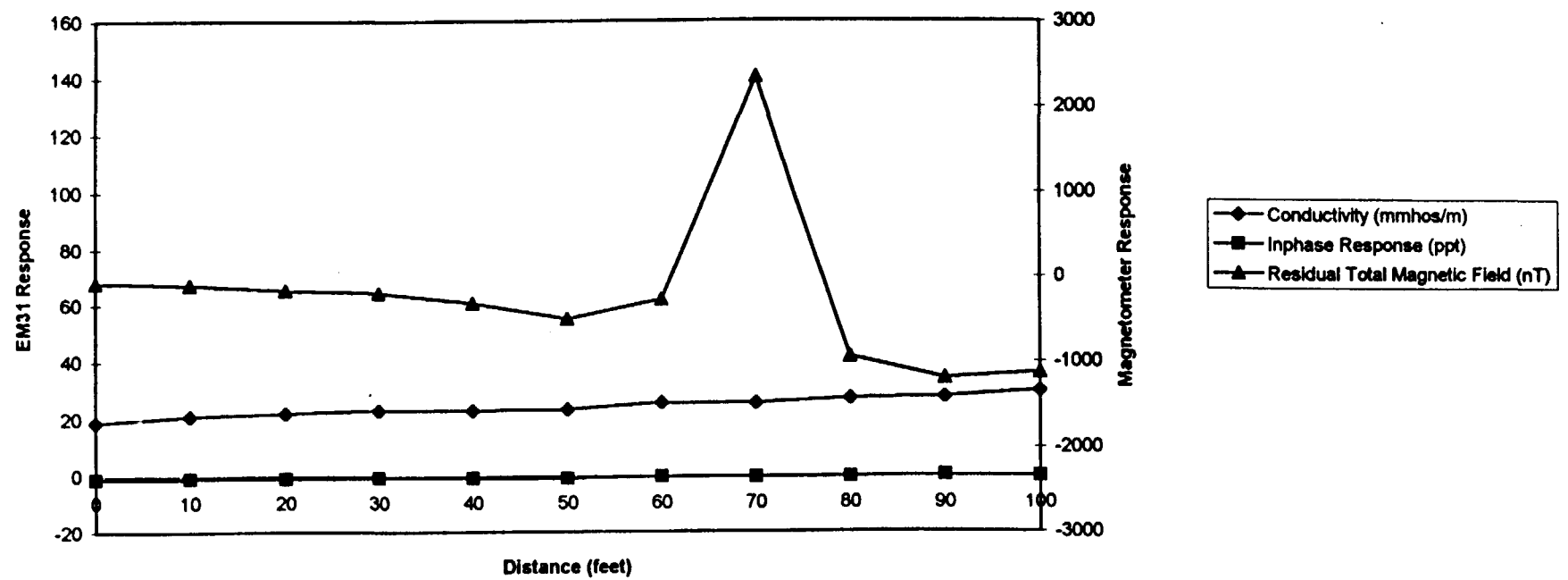


Figure 9: Blackwell Landfill Site—Geophysical Results for Line 8

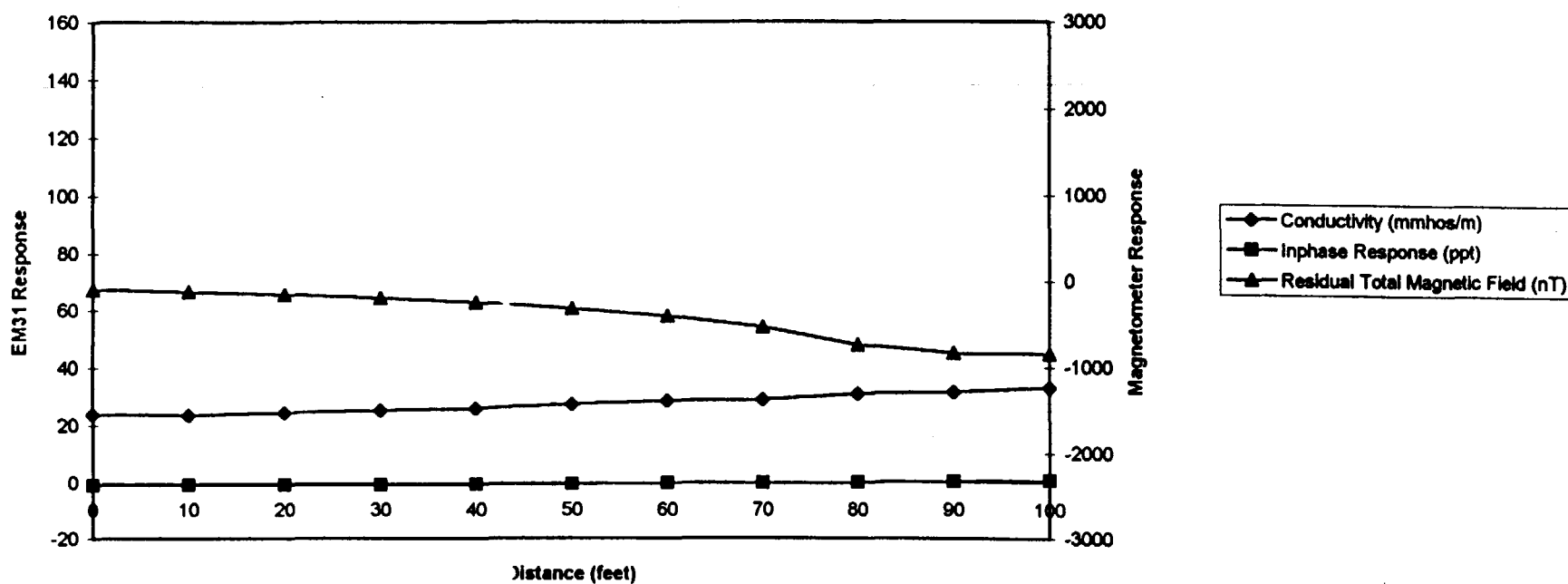


Figure 10: Blackwell Landfill Site—Geophysical Results for Line 9

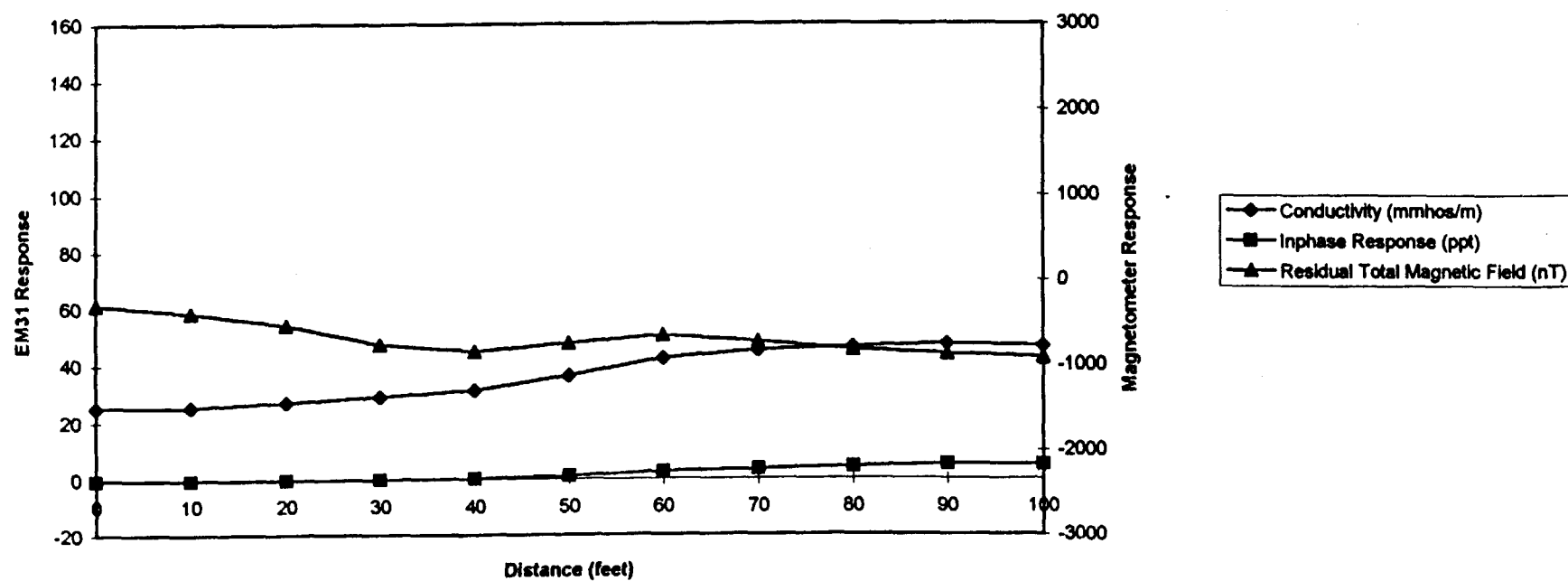


Figure 11: Blackwell Landfill Site—Geophysical Results for Line 10

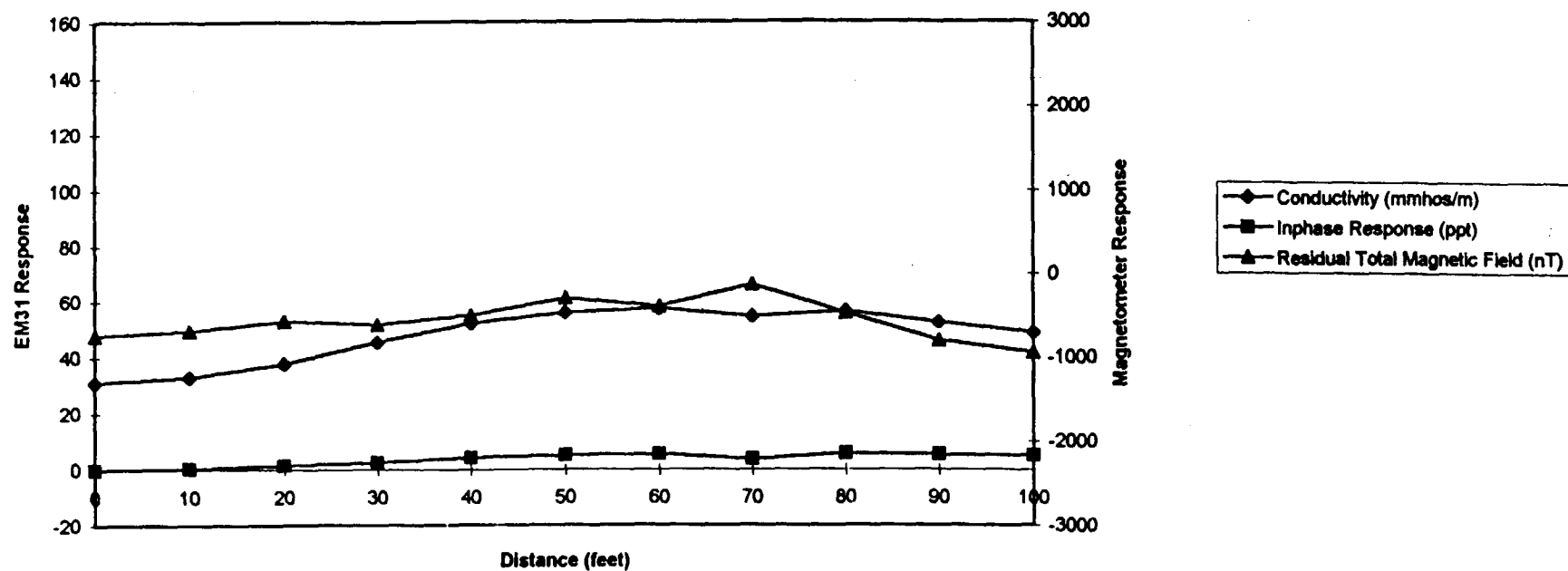


Figure 12: Blackwell Landfill Site—Geophysical Results for Line 11

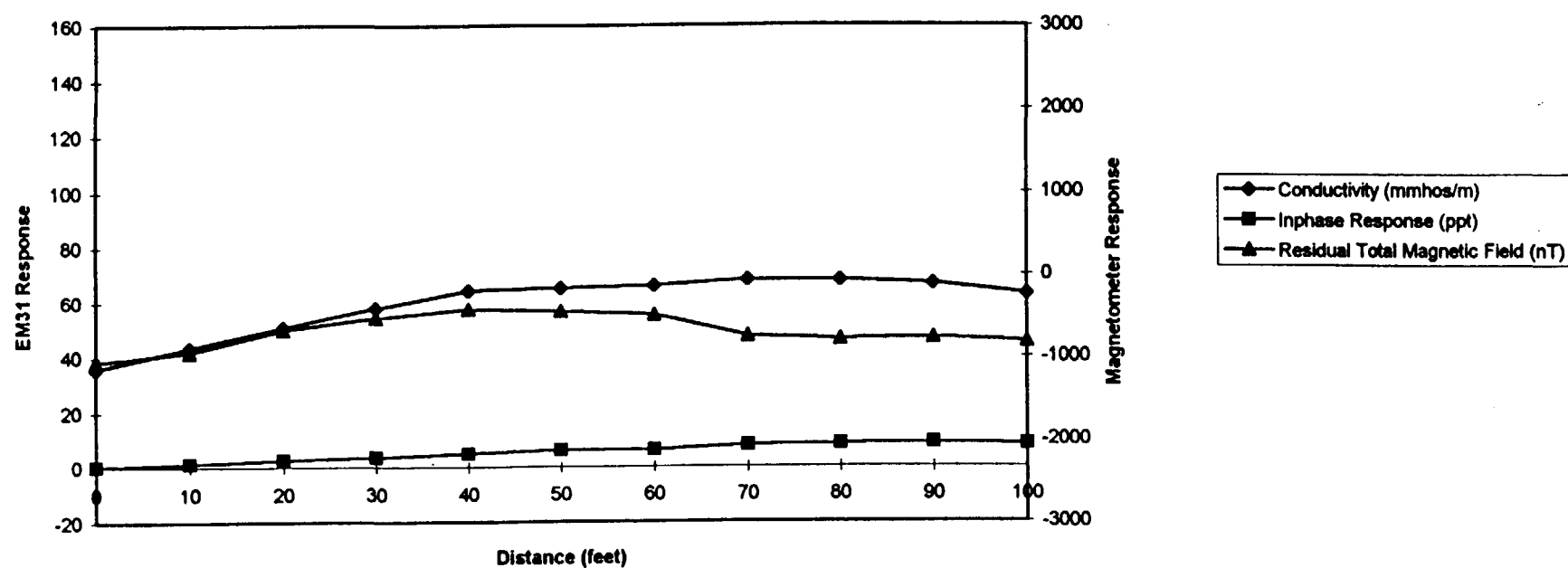
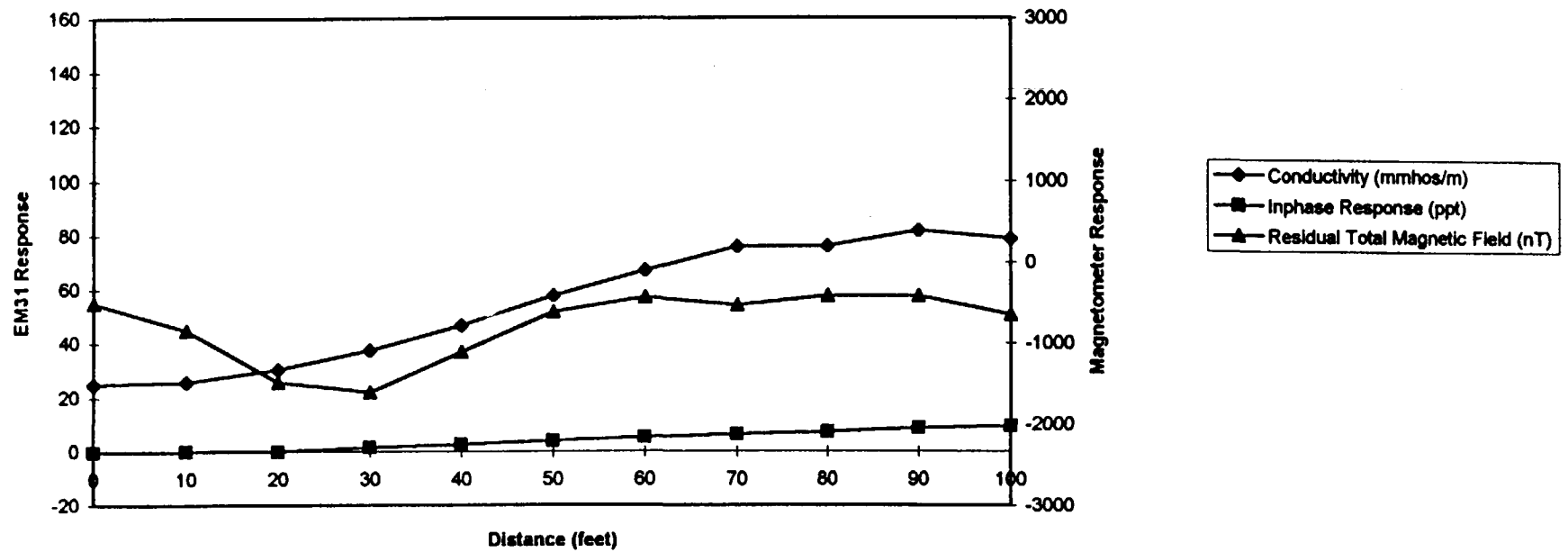


Figure 13: Blackwell Landfill Site—Geophysical Results for Line 12



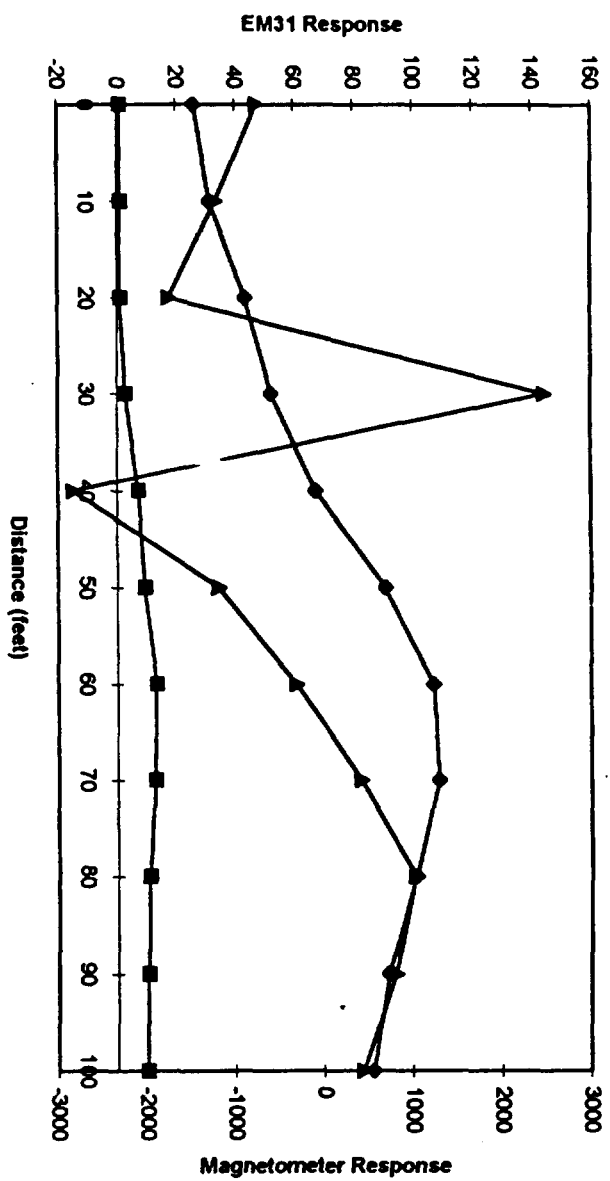


Figure 14: Blackwell Landfill Site—Geophysical Results for Line 13

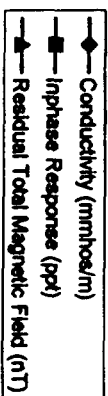


Figure 15: Blackwell Landfill Site—Geophysical Results for Line 14

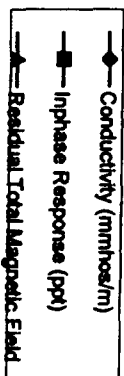
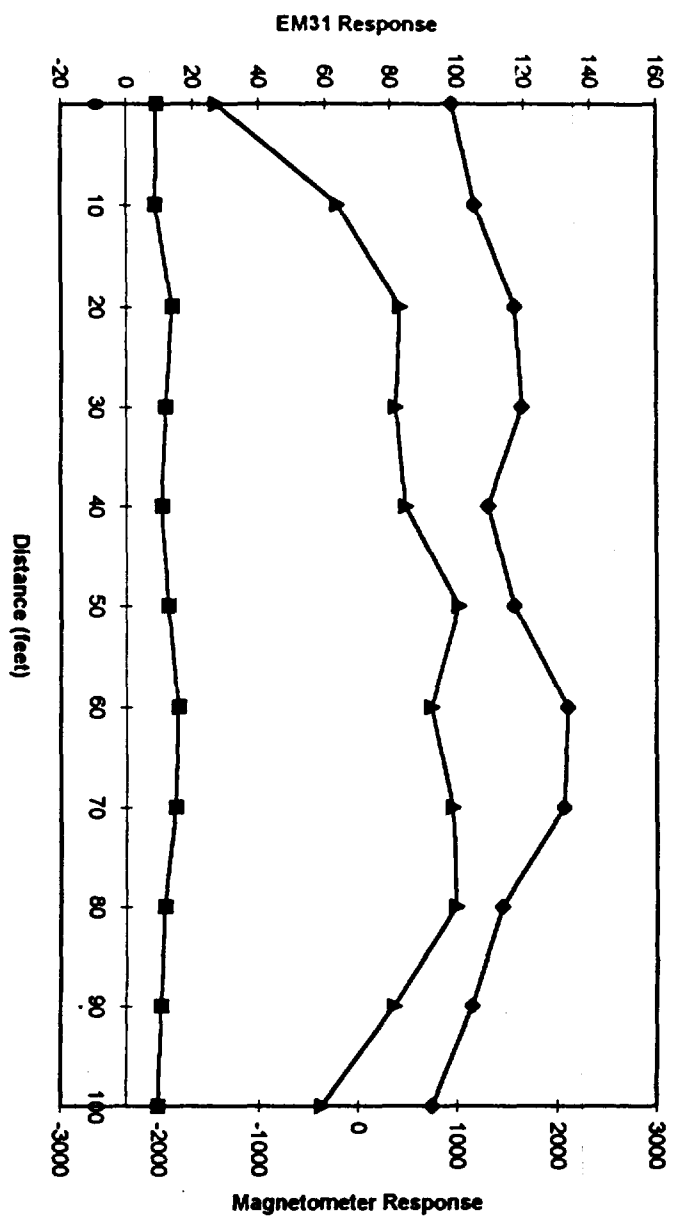


Figure 16: Blackwell Landfill Site—Geophysical Results for Line 15

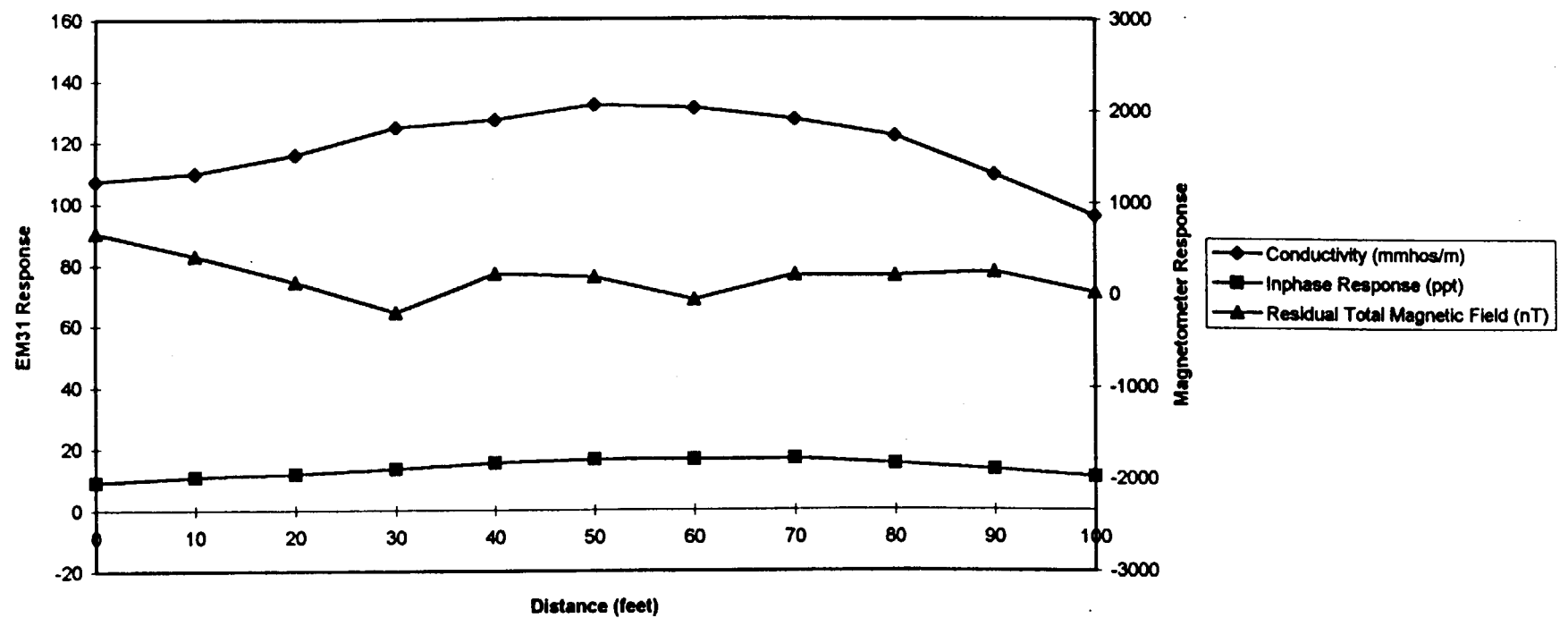


Figure 17: Blackwell Landfill Site—Geophysical Results for Line 16

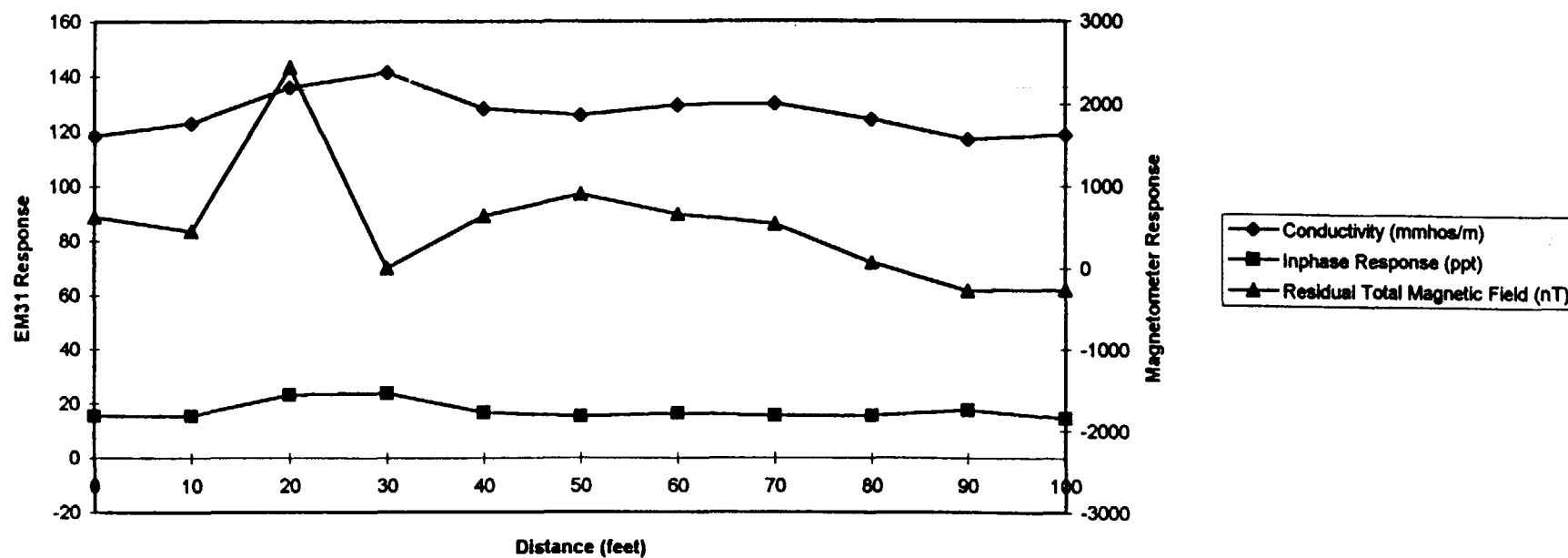


Figure 1 : Blackwell Landfill Site—Geophysical Results for Line 17

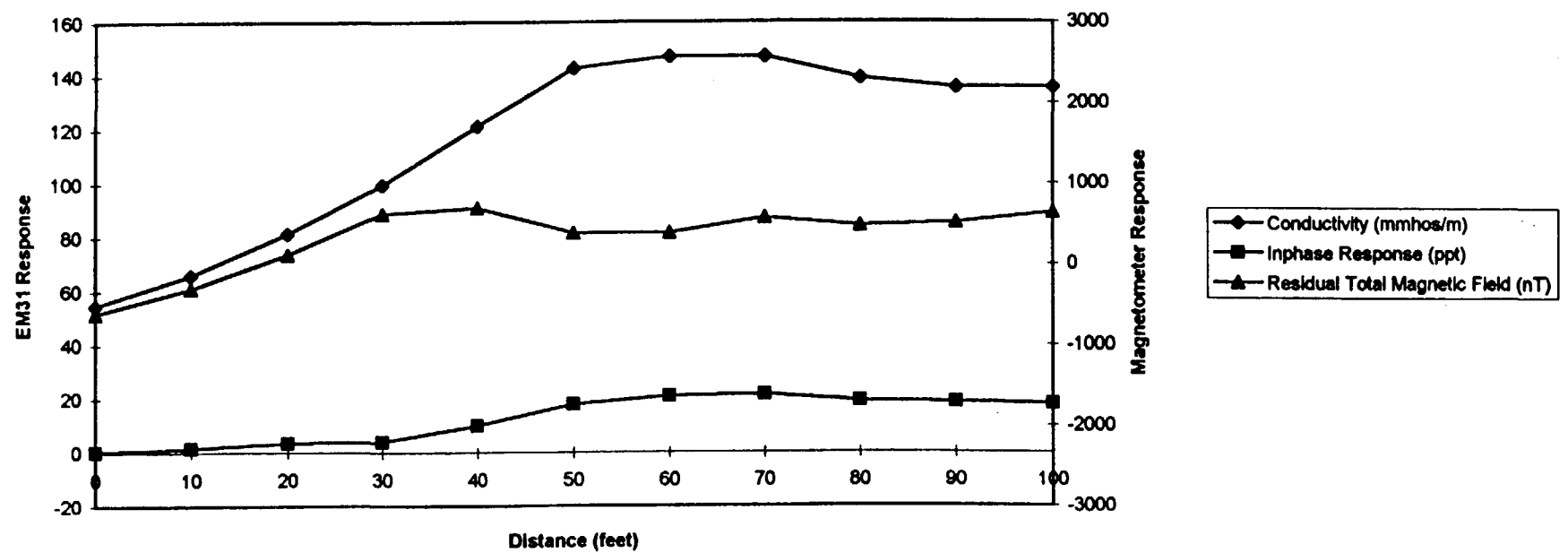


Figure 19: Blackwell Landfill Site—Geophysical Results for Line 18

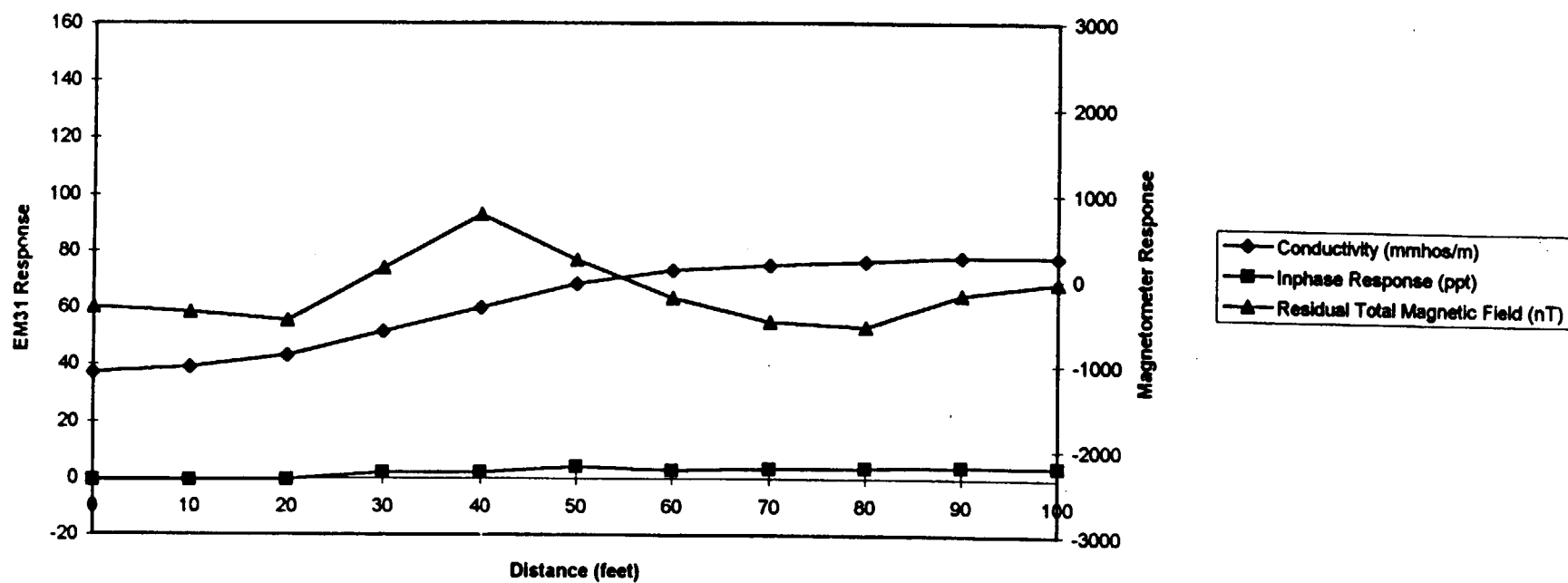


Figure 20: Blackwell Landfill Site--Geophysical Results for Line 19

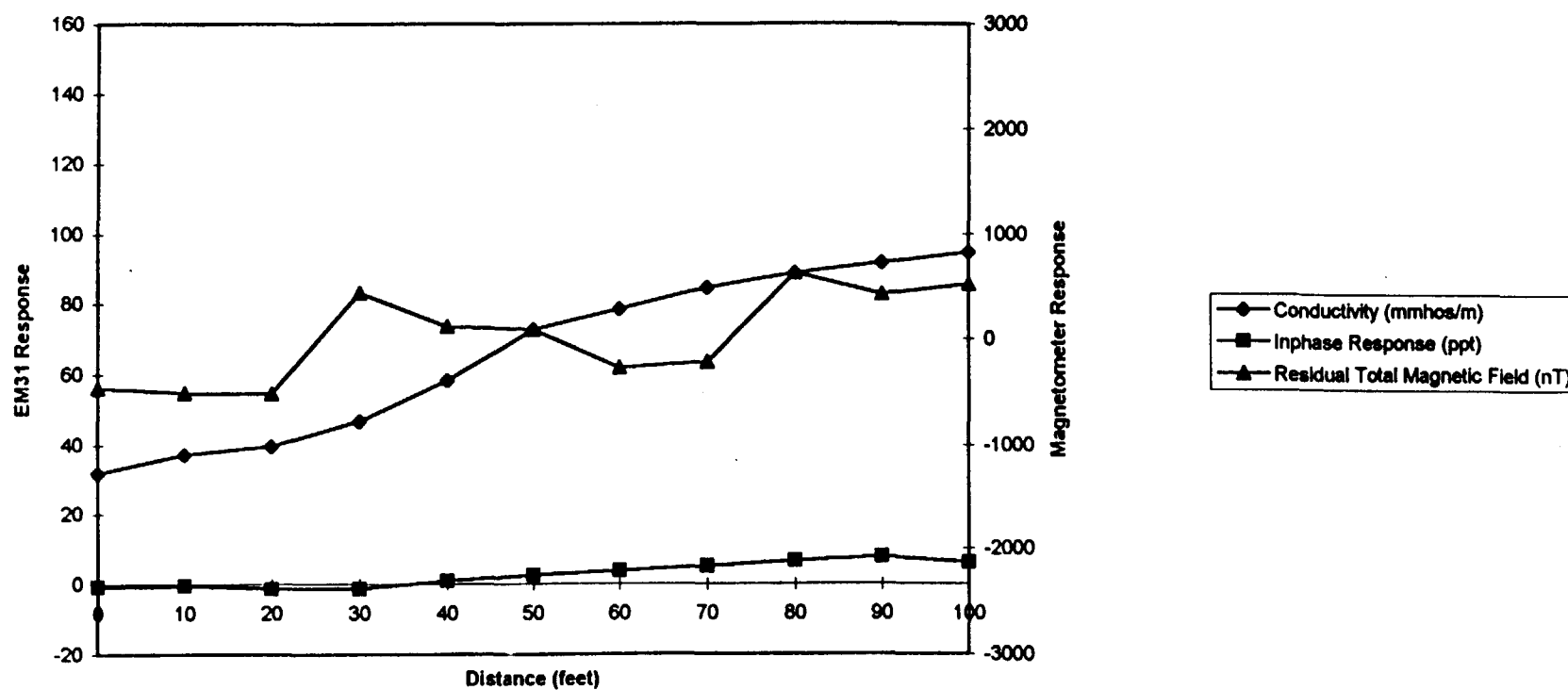


Figure 21: Blackwell Landfill Site—Geophysical Results for Line 20

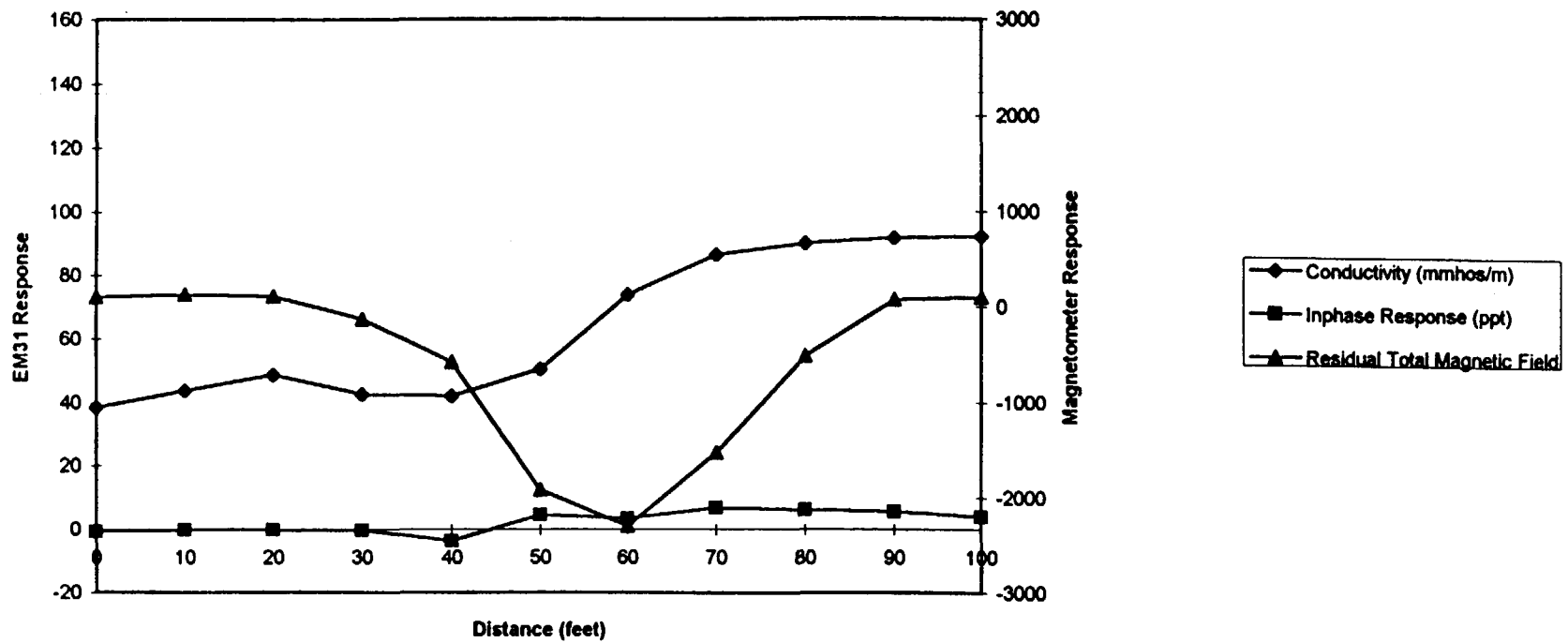


Figure 22: Blackwell Landfill Site—Geophysical Results for Line 21

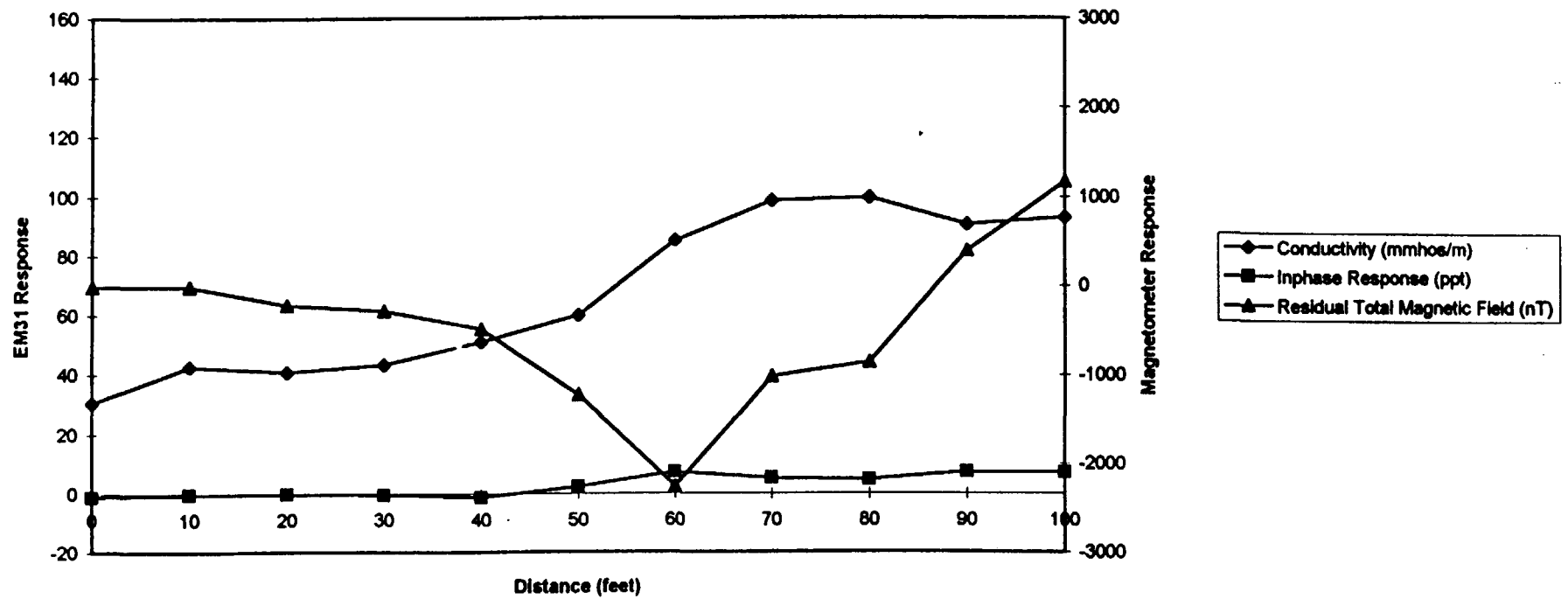


Figure 23: Blackwell Landfill Site—Geophysical Results for Line 22

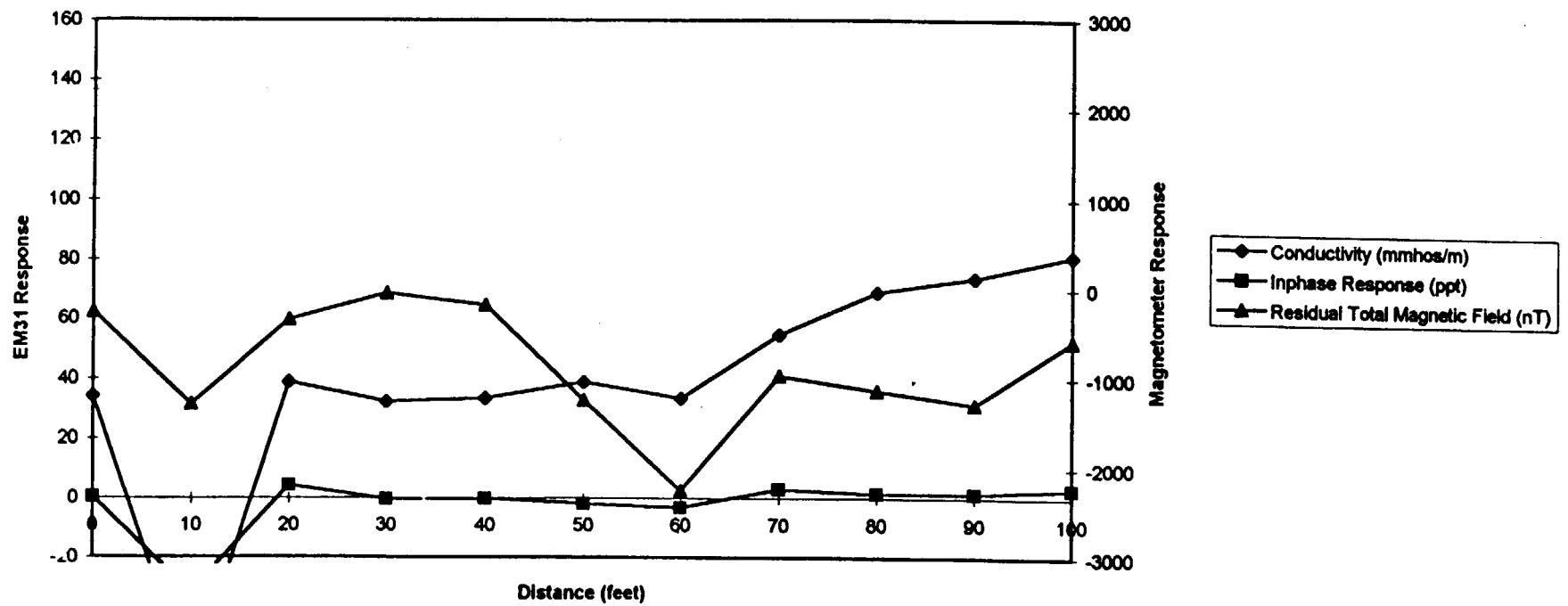


Figure 24: Blackwell Landfill Site—Geophysical Results for Line 23

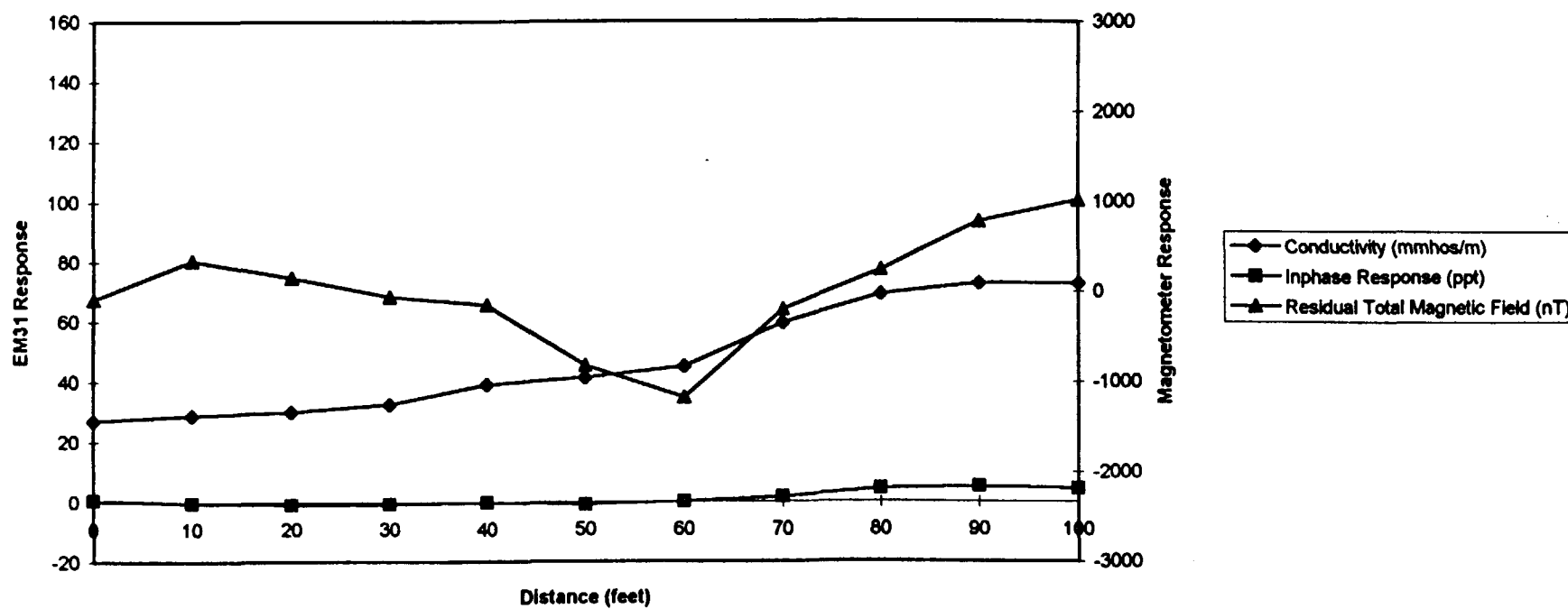


Figure 25: Blackwell Landfill Site—Geophysical Results for Line 24

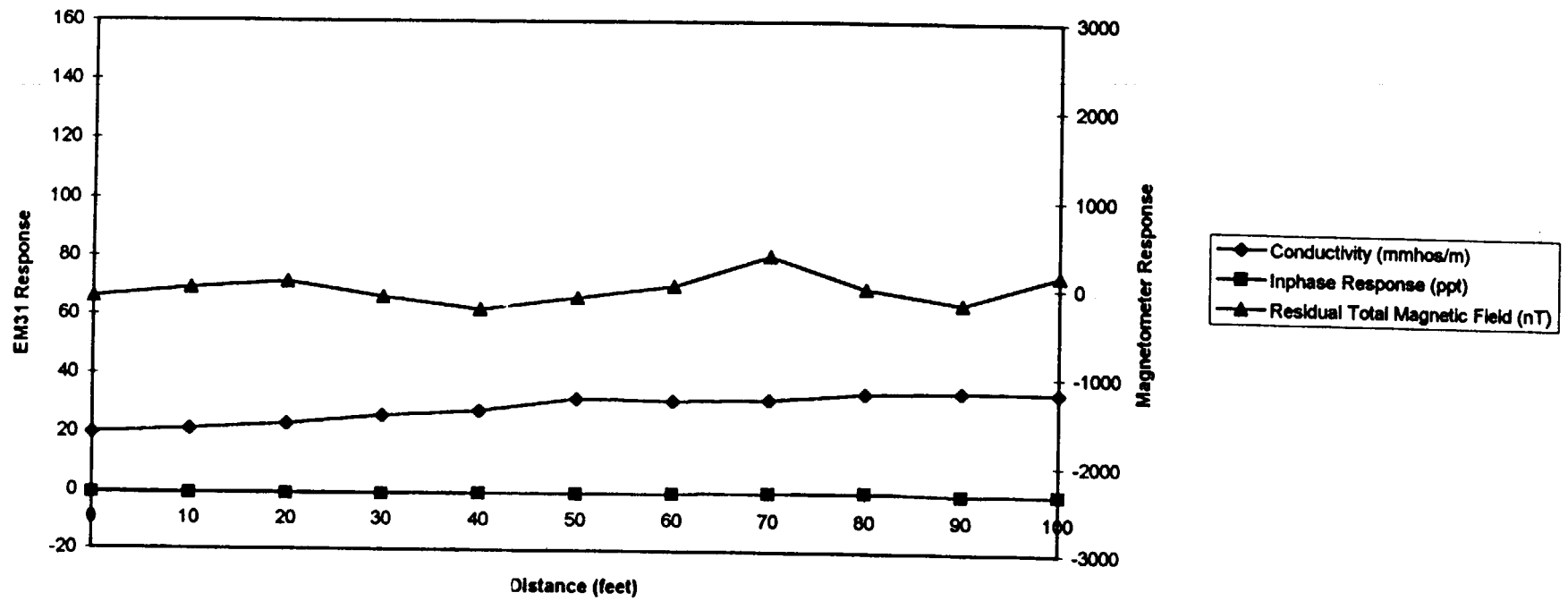


Figure 2 : Blackwell Landfill Site--Geophysical Results for Line 25

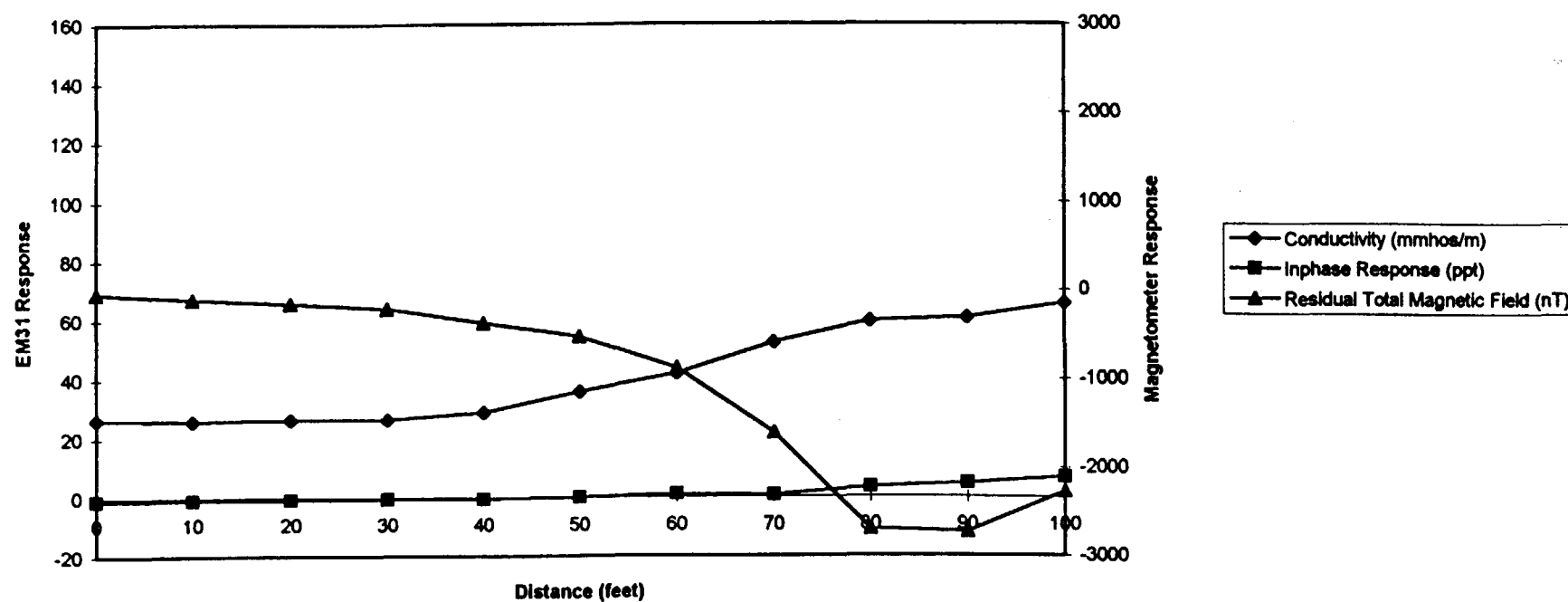


Figure 27: Blackwell Landfill Site—Geophysical Results for Line 26

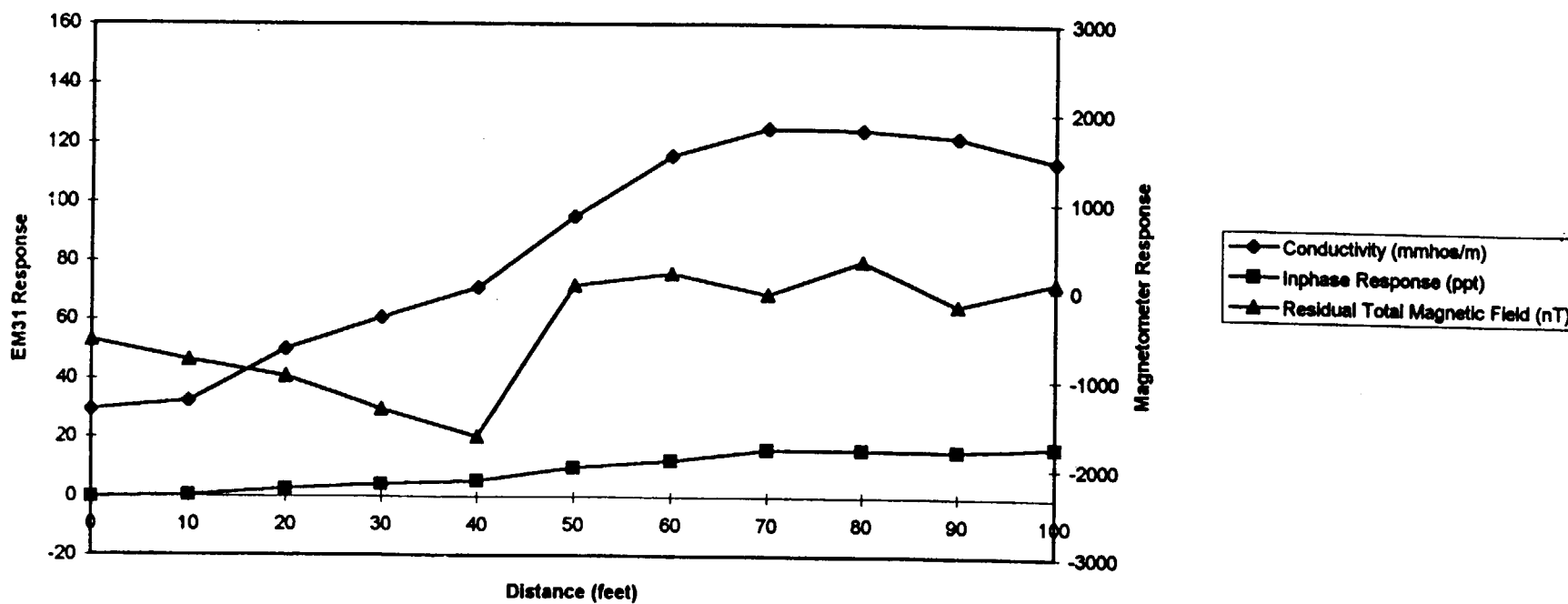


Figure 28: Blackwell Landfill Site—Geophysical Results for Line 27

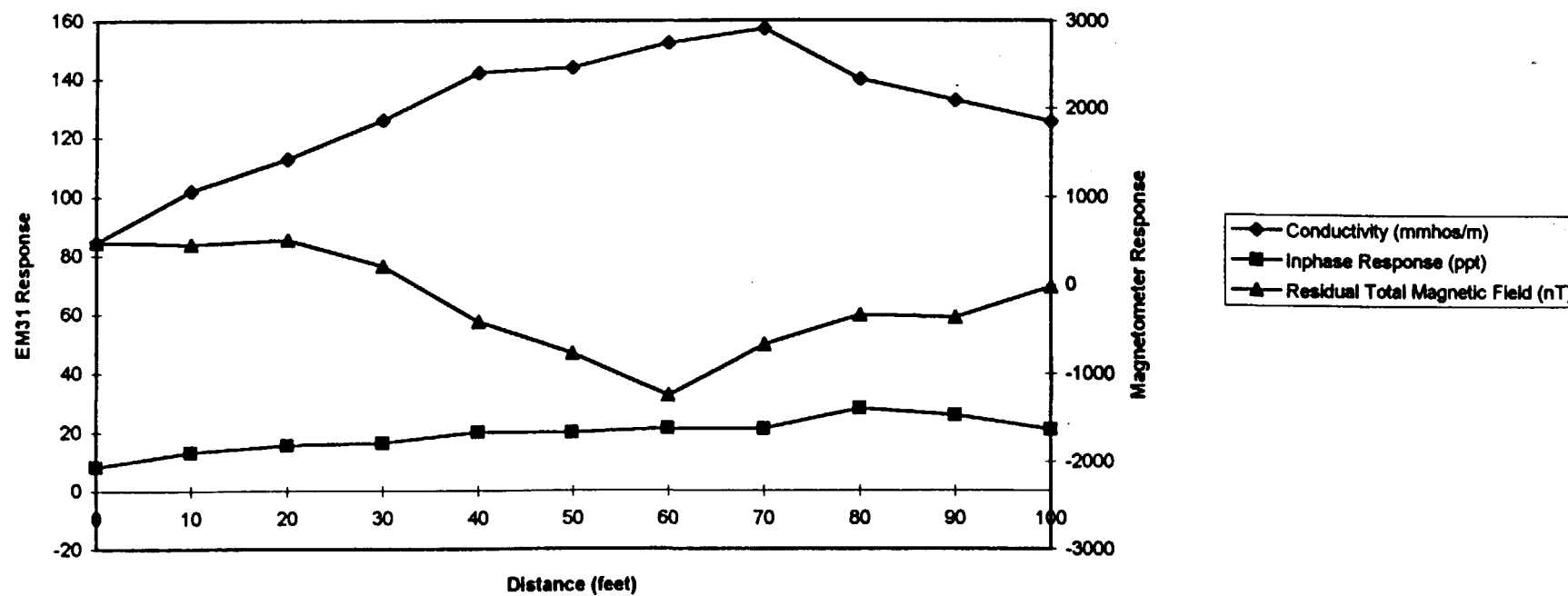
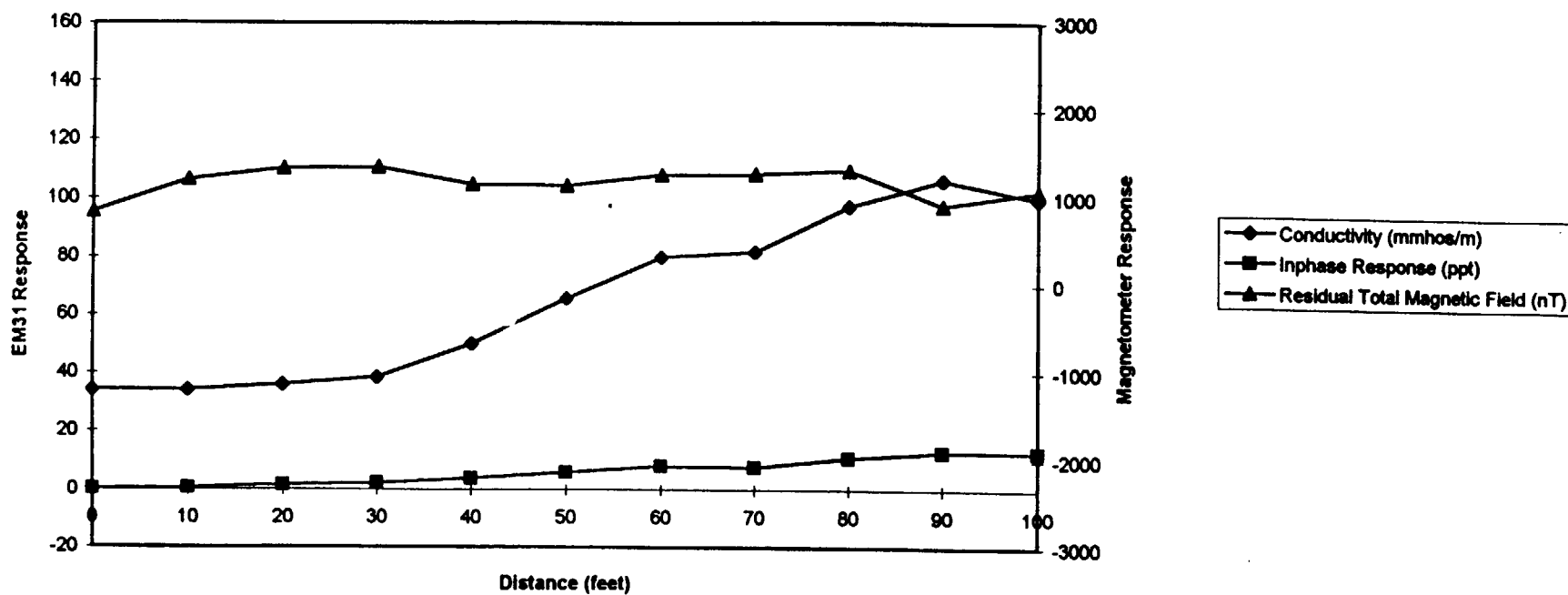


Figure 29: Blackwell Landfill Site—Geophysical Results for Line 28



Appendix A: Blackwell Landfill Site --Electromagnetic and Magnetic Data

Appendix A: Blackwell Landfill Site--Electromagnetic and Magnetic Data

Line Number	Distance (feet)	Conductivity (mmhos/m)	Inphase Response (ppt)	Residual Total Magnetic Field (nT)
1	0	9.4	-1.2	113
1	10	10.6	-1.1	138
1	20	12.8	-1.2	178
1	30	17.4	-1.0	285
1	40	17.4	-0.9	500
1	50	22.0	-0.6	764
1	60	27.8	-1.0	1409
1	70	30.8	1.2	1666
1	80	33.6	0.9	1261
1	90	32.8	1.2	63
1	100	31.0	0.9	244
2	0	10.0	-1.2	84
2	10	12.2	-1.5	136
2	20	16.4	-0.8	266
2	30	21.0	-0.7	841
2	40	22.6	-0.2	1244
2	50	29.2	0.1	1818
2	60	38.2	2.2	2696
2	70	44.2	11.4	399
2	80	38.2	7.6	1147
2	90	33.0	7.3	1374
2	100	30.4	4.7	266
3	0	10.0	-1.2	72
3	10	11.4	-1.1	137
3	20	15.2	-1.0	489
3	30	17.8	-1.8	1054
3	40	21.8	0.0	617
3	50	26.2	-0.7	689
3	60	35.4	0.7	722
3	70	40.0	2.1	719
3	80	40.8	2.3	503
3	90	40.4	1.9	661
3	100	37.6	2.2	773
4	0	8.8	-1.0	-29
4	10	10.0	-1.0	101
4	20	11.6	-1.1	121
4	30	15.6	-1.3	413
4	40	18.2	-0.5	494
4	50	20.8	-0.7	532
4	60	29.2	-0.7	919
4	70	33.8	0.5	426
4	80	35.8	1.3	370
4	90	36.2	1.8	82
4	100	36.2	1.9	216
5	0	13.4	-1.0	136
5	10	15.4	-1.0	55
5	20	14.8	-1.2	103
5	30	23.4	-1.1	103
5	40	20.2	-1.2	178

Appendix A: Blackwell Landfill Site--Electromagnetic and Magnetic Data

Line Number	Distance (feet)	Conductivity (mmhos/m)	Inphase Response (ppt)	Residual Total Magnetic Field (nT)
5	50	18.0	-1.0	389
5	60	19.6	-0.8	608
5	70	27.8	2.1	978
5	80	40.8	0.9	617
5	90	43.6	1.1	710
5	100	44.4	2.0	1088
6	0	27.6	-0.6	-467
6	10	29.0	-0.4	-675
6	20	30.4	-0.3	-971
6	30	31.8	0.0	-1219
6	40	35.8	0.5	-1283
6	50	40.4	1.6	-1186
6	60	43.2	2.8	-933
6	70	42.6	3.5	-708
6	80	42.8	4.2	-590
6	90	42.8	4.7	-508
6	100	39.6	4.4	-490
7	0	18.8	-1.2	-69
7	10	21.0	-1.0	-96
7	20	22.0	-0.9	-154
7	30	23.0	-0.8	-191
7	40	23.0	-0.8	-308
7	50	23.4	-0.9	-500
7	60	25.6	-0.4	-269
7	70	25.4	-0.5	2343
7	80	27.0	-0.5	-945
7	90	27.6	0.0	-1195
7	100	29.8	-0.1	-1127
8	0	23.8	-0.9	-91
8	10	23.4	-0.9	-116
8	20	24.2	-0.9	-149
8	30	25.2	-0.8	-190
8	40	25.8	-0.7	-244
8	50	27.2	-0.7	-319
8	60	28.4	-0.4	-404
8	70	28.8	-0.3	-535
8	80	30.8	-0.1	-745
8	90	31.4	0.3	-837
8	100	33.0	0.7	-844
9	0	25.0	-0.7	-292
9	10	25.2	-0.6	-388
9	20	27.0	-0.5	-529
9	30	29.0	-0.3	-756
9	40	31.2	0.1	-843
9	50	38.4	0.9	-747
9	60	42.4	2.4	-654
9	70	45.0	3.2	-733
9	80	46.2	4.1	-827
9	90	47.2	4.8	-871

Appendix A: Blackwell Landfill Site--Electromagnetic and Magnetic Data

Line Number	Distance (feet)	Conductivity (mmhos/m)	Inphase Response (ppt)	Residual Total Magnetic Field (nT)
9	100	46.6	4.9	-912
10	0	31.2	0.0	-742
10	10	33.0	0.4	-682
10	20	37.8	1.4	-568
10	30	45.4	2.6	-605
10	40	52.2	4.2	-497
10	50	56.0	5.1	-299
10	60	57.4	5.3	-390
10	70	54.4	3.7	-137
10	80	56.4	5.7	-477
10	90	52.4	5.3	-806
10	100	48.8	5.0	-942
11	0	35.8	0.3	-1054
11	10	43.4	1.3	-941
11	20	50.8	2.6	-677
11	30	57.8	3.8	-522
11	40	64.2	4.9	-421
11	50	65.0	6.3	-445
11	60	65.8	6.2	-493
11	70	68.0	8.0	-754
11	80	67.8	8.4	-795
11	90	66.6	8.8	-769
11	100	63.0	8.4	-811
12	0	24.8	-0.2	-501
12	10	25.6	-0.1	-840
12	20	30.4	-0.1	-1478
12	30	37.4	1.4	-1596
12	40	46.8	2.6	-1101
12	50	57.6	3.9	-609
12	60	66.8	5.2	-431
12	70	75.6	6.2	-534
12	80	75.8	7.1	-421
12	90	81.6	5.5	-420
12	100	78.6	9.3	-647
13	0	26.2	0.8	-756
13	10	31.4	1.0	-1221
13	20	43.2	1.0	-1751
13	30	52.2	2.7	2483
13	40	67.2	7.1	-2826
13	50	90.6	9.1	-1193
13	60	106.8	13.2	-313
13	70	108.6	12.7	414
13	80	101.0	10.8	1028
13	90	91.8	10.3	803
13	100	86.8	10.0	443
14	0	98.6	9.2	-1428
14	10	105.4	8.9	-200
14	20	117.2	13.8	424
14	30	119.4	11.9	382

Appendix A: Blackwell Landfill Site--Electromagnetic and Magnetic Data

Line Number	Distance (feet)	Conductivity (mmhos/m)	Inphase Response (ppt)	Residual Total Magnetic Field (nT)
14	40	109.2	10.8	482
14	50	117.0	12.6	1015
14	60	133.2	15.8	738
14	70	132.0	14.8	955
14	80	113.4	11.6	982
14	90	104.4	10.5	360
14	100	92.4	9.6	-387
15	0	107.4	9.1	684
15	10	109.8	10.8	434
15	20	115.8	11.7	145
15	30	124.8	13.4	-188
15	40	127.2	15.3	232
15	50	132.0	16.4	191
15	60	130.8	16.4	-54
15	70	127.2	16.6	213
15	80	121.8	14.9	207
15	90	109.2	13.1	252
15	100	98.0	10.8	24
16	0	118.2	15.6	627
16	10	123.0	15.4	453
16	20	136.2	23.3	2451
16	30	141.8	23.8	7
16	40	128.4	16.7	643
16	50	126.0	15.3	908
16	60	129.6	16.4	661
16	70	130.2	15.5	544
16	80	124.2	15.4	65
16	90	117.0	17.7	-276
16	100	118.8	14.5	-263
17	0	54.6	0.3	-614
17	10	66.0	1.4	-298
17	20	81.6	3.5	127
17	30	99.6	3.8	630
17	40	121.2	9.8	700
17	50	142.8	17.8	387
17	60	147.0	20.8	381
17	70	147.0	21.4	572
17	80	139.2	19.1	480
17	90	135.6	18.7	515
17	100	135.6	18.1	634
18	0	37.2	-0.8	-324
18	10	39.0	-0.7	-386
18	20	43.2	-0.5	-481
18	30	51.6	1.9	130
18	40	60.0	2.0	762
18	50	68.4	4.0	230
18	60	73.2	2.9	-216
18	70	75.0	3.4	-499
18	80	76.2	3.6	-561

Appendix A: Blackwell Landfill Site--Electromagnetic and Magnetic Data

Line Number	Distance (feet)	Conductivity (mmhos/m)	Inphase Response (ppt)	Residual Total Magnetic Field (nT)
18	90	78.0	4.1	-179
18	100	78.0	4.4	-41
19	0	31.8	-0.7	-461
19	10	37.2	-0.6	-510
19	20	39.6	-1.3	-518
19	30	46.8	-1.5	441
19	40	58.2	0.8	119
19	50	72.6	2.5	87
19	60	78.6	3.6	-271
19	70	84.6	4.8	-221
19	80	88.8	6.3	627
19	90	91.8	7.6	423
19	100	94.8	6.0	521
20	0	38.4	-0.7	109
20	10	43.8	-0.2	135
20	20	48.6	-0.1	110
20	30	42.6	-0.4	-125
20	40	42.0	-3.7	-581
20	50	50.4	4.6	-1918
20	60	73.8	3.4	-2300
20	70	86.4	6.8	-1533
20	80	90.0	6.3	-515
20	90	91.8	5.8	74
20	100	92.4	3.9	99
21	0	30.6	-1.1	-15
21	10	42.6	-0.3	-18
21	20	40.8	-0.3	-217
21	30	43.2	-0.5	-284
21	40	51.0	-1.4	-486
21	50	60.0	2.2	-1221
21	60	85.2	7.2	-2253
21	70	98.4	5.1	-1026
21	80	99.6	4.5	-866
21	90	90.6	7.3	387
21	100	93.0	7.0	1167
22	0	34.2	0.5	-255
22	10	-61.8	-31.6	-1281
22	20	39.0	4.2	-345
22	30	32.4	-0.4	-48
22	40	33.6	-0.2	-183
22	50	39.0	-2.0	-1234
22	60	33.6	-3.2	-2241
22	70	54.6	3.1	-968
22	80	69.0	1.5	-1130
22	90	73.8	1.6	-1289
22	100	81.0	3.1	-579
23	0	27.0	0.7	-90
23	10	28.8	-0.5	346
23	20	30.0	-0.9	152

Appendix A: Blackwell Landfill Site--Electromagnetic and Magnetic Data

Line Number	Distance (feet)	Conductivity (mmhos/m)	Inphase Response (ppt)	Residual Total Magnetic Field (nT)
23	30	32.4	-0.7	-82
23	40	39.0	-0.2	-155
23	50	41.4	-0.9	-817
23	60	45.0	0.1	-1178
23	70	59.4	1.5	-202
23	80	69.0	4.3	238
23	90	72.8	5.0	779
23	100	72.6	4.5	1022
24	0	19.8	-0.7	-130
24	10	21.0	-0.8	-25
24	20	22.8	-0.9	43
24	30	25.8	-0.9	-123
24	40	27.8	-0.5	-280
24	50	31.8	-0.3	-126
24	60	31.2	-0.2	12
24	70	31.8	0.2	357
24	80	34.2	0.6	-5
24	90	34.8	-0.3	-179
24	100	34.8	0.1	153
25	0	28.4	-0.9	-33
25	10	25.8	-0.9	-100
25	20	28.4	-0.7	-145
25	30	28.4	-0.6	-200
25	40	28.8	-0.5	-388
25	50	38.0	0.2	-519
25	60	42.0	1.1	-876
25	70	52.2	0.7	-1608
25	80	59.4	3.2	-2698
25	90	60.6	4.7	-2730
25	100	65.4	6.8	-2270
26	0	29.4	-0.1	-573
26	10	32.4	0.5	-791
26	20	49.8	2.6	-973
26	30	60.6	4.2	-1346
26	40	70.8	5.4	-1659
26	50	95.4	9.9	53
26	60	115.8	12.4	198
26	70	124.8	16.1	-44
26	80	124.2	16.0	335
26	90	121.8	15.6	-169
26	100	114.0	17.3	101
27	0	84.6	8.1	489
27	10	102.0	13.2	485
27	20	112.8	15.5	516
27	30	126.0	16.4	216
27	40	142.2	20.0	-422
27	50	144.0	20.0	-776
27	60	152.4	21.4	-1247
27	70	157.2	21.2	-681

Appendix A: Blackwell Landfill Site--Electromagnetic and Magnetic Data

Line Number	Distance (feet)	Conductivity (mmhos/m)	Inphase Response (ppt)	Residual Total Magnetic Field (nT)
27	80	139.8	27.9	-350
27	90	132.6	25.8	-378
27	100	125.4	20.9	-25
28	0	34.2	0.0	847
28	10	34.2	0.6	1207
28	20	36.0	1.4	1338
28	30	38.4	2.1	1349
28	40	49.8	3.8	1158
28	50	65.4	5.6	1140
28	60	79.8	8.0	1262
28	70	81.6	7.6	1273
28	80	97.2	10.7	1312
28	90	106.2	12.8	916
28	100	99.6	12.7	1076

Appendix B: Blackwell Landfill Site
--Coordinates of Survey Features

Appendix B: Blackwell Landfill Site--Coordinates of Survey Features

Station	Location of Station at Site is	
	East (feet)	North (feet)
18	-558	182
20	-158	180
DV2	-288	347
GL10E	-503	593
GL10S	-455	680
GL11E	-592	636
GL11S	-547	724
GL12E	-678	683
GL12S	-640	775
GL13E	-766	737
GL13S	-725	827
GL14E	-847	793
GL14S	-807	883
GL15E	-931	865
GL15S	-861	935
GL16E	-959	1007
GL16S	-870	961
GL17E	-929	1107
GL17S	-835	1072
GL18E	-911	1175
GL18S	-814	1187
GL19E	-903	1275
GL19S	-805	1290
GL1E	-529	99
GL1S	-547	3
GL20E	-899	1302
GL20S	-886	1401
GL21E	-988	1297
GL21S	-1001	1395
GL22E	-1083	1296
GL22S	-1100	1391
GL23E	-1175	1266
GL23S	-1194	1361
GL24E	-1251	1234
GL24S	-1298	1321
GL25E	-1320	1195
GL25S	-1389	1262
GL26E	-1407	1117
GL26S	-1465	1196
GL27E	-1413	1079
GL27S	-1512	1074
GL28E	-1397	995
GL28S	-1489	960
GL2E	-451	98
GL2S	-451	0
GL3E	-342	100
GL3S	-347	3
GL4E	-251	101
GL4S	-231	7

Appendix B: Blackwell Landfill Site--Coordinates of Survey Features

Station	Location of Station at Site is	
	East (feet)	North (feet)
GL5E	-148	113
GL5S	-133	14
GL6E	-201	374
GL6S	-155	461
GL7E	-245	472
GL7S	-184	549
GL8E	-310	523
GL8S	-273	615
GL9E	-414	553
GL9S	-362	641
SB3	-274	83
SV1	-1211	1088



D



D

GEOTECH LABORATORY RESULTS

D1	Grain Size Results
D2	Laboratory Permeability Results

GRAIN SIZE RESULTS

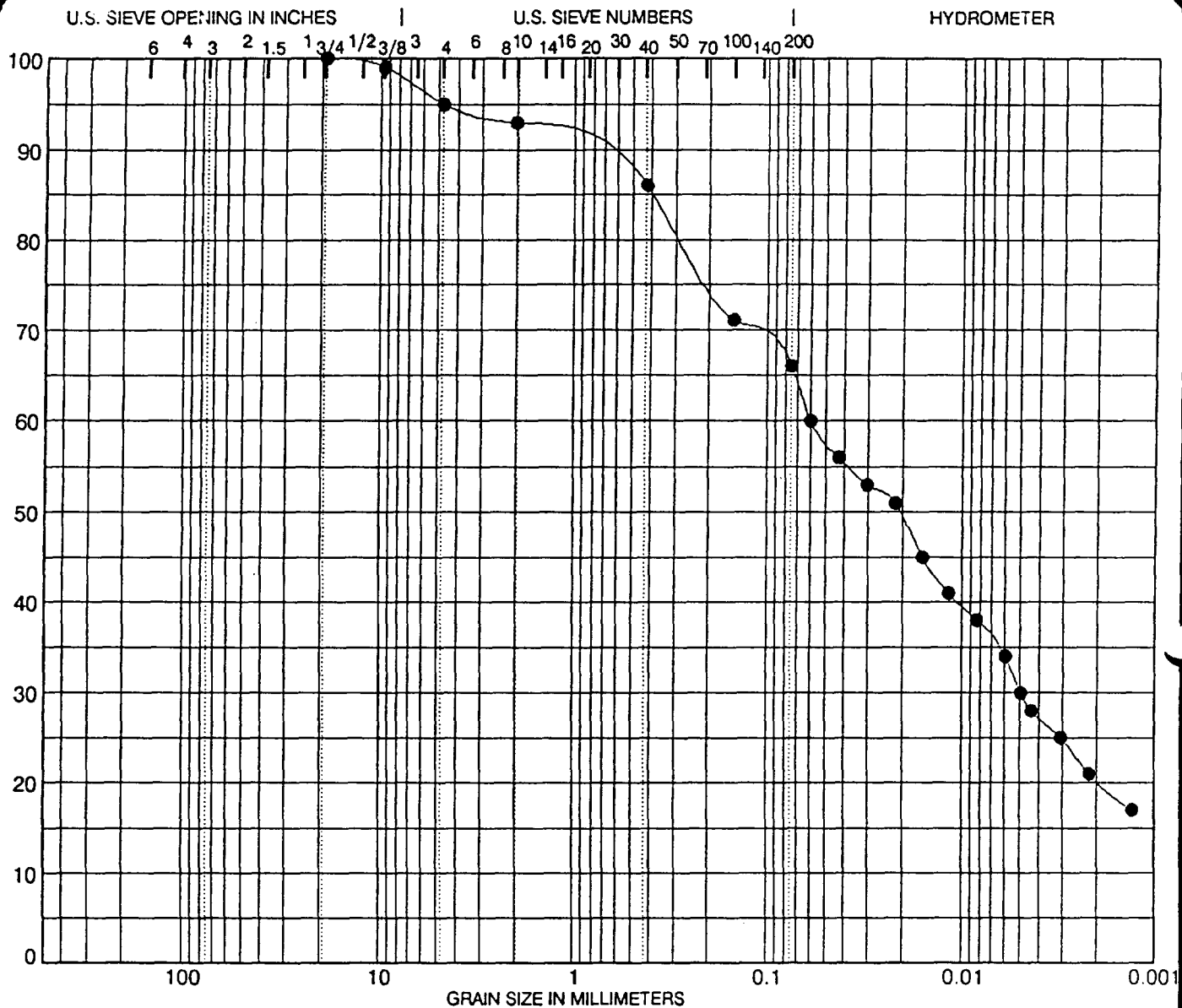
D1

Project: Blackwell Forest Preserve
Client: Montgomery Watson
TSC Job No: 40821

SUMMARY OF GRAIN SIZE ANALYSES

(See Attached Soil Data Sheets for Results)

Date Obtained	Sample No.
10-7-96	✓ TB-9, S-2, 2' - 4'
10-7-96	✓ TB-10, S-2, 2' - 4'
10-7-96	✓ TB-11, S-3, 4' - 6'
10-7-96	✓ TB-12, S-4, 6' - 8'
10-7-96	✓ TB-13, S-4, 6' - 8'
10-7-96	TB-14, S-7, 12' - 14'
10-7-96	TB-15, S-4, 6' - 8'
10-8-96	TB-16, S-2, 2' - 4'
10-9-96	TB-20, S-4, 6' - 8'
10-9-96	TB-19, S-8, 14' - 16'
10-9-96	TB-18, S-2, 2' - 4'
10-9-96	TB-17, S-2, 2' - 4'
10-9-96	✓ TB-8, S-3, 4' - 6'
10-9-96	✓ TB-2, S-2, 2' - 4'
10-9-96	✓ TB-4, S-2, 2' - 4'
10-9-96	✓ TB-7, S-2, 2' - 4'
10-9-96	✓ TB-6, S-4, 6' - 8'
10-9-96	✓ TB-5, S-2, 2' - 4'
10-10-96	✓ TB-1A, S-2, 2' - 4'
10-11-96	✓ TB-3D, S-5, 8' - 10'



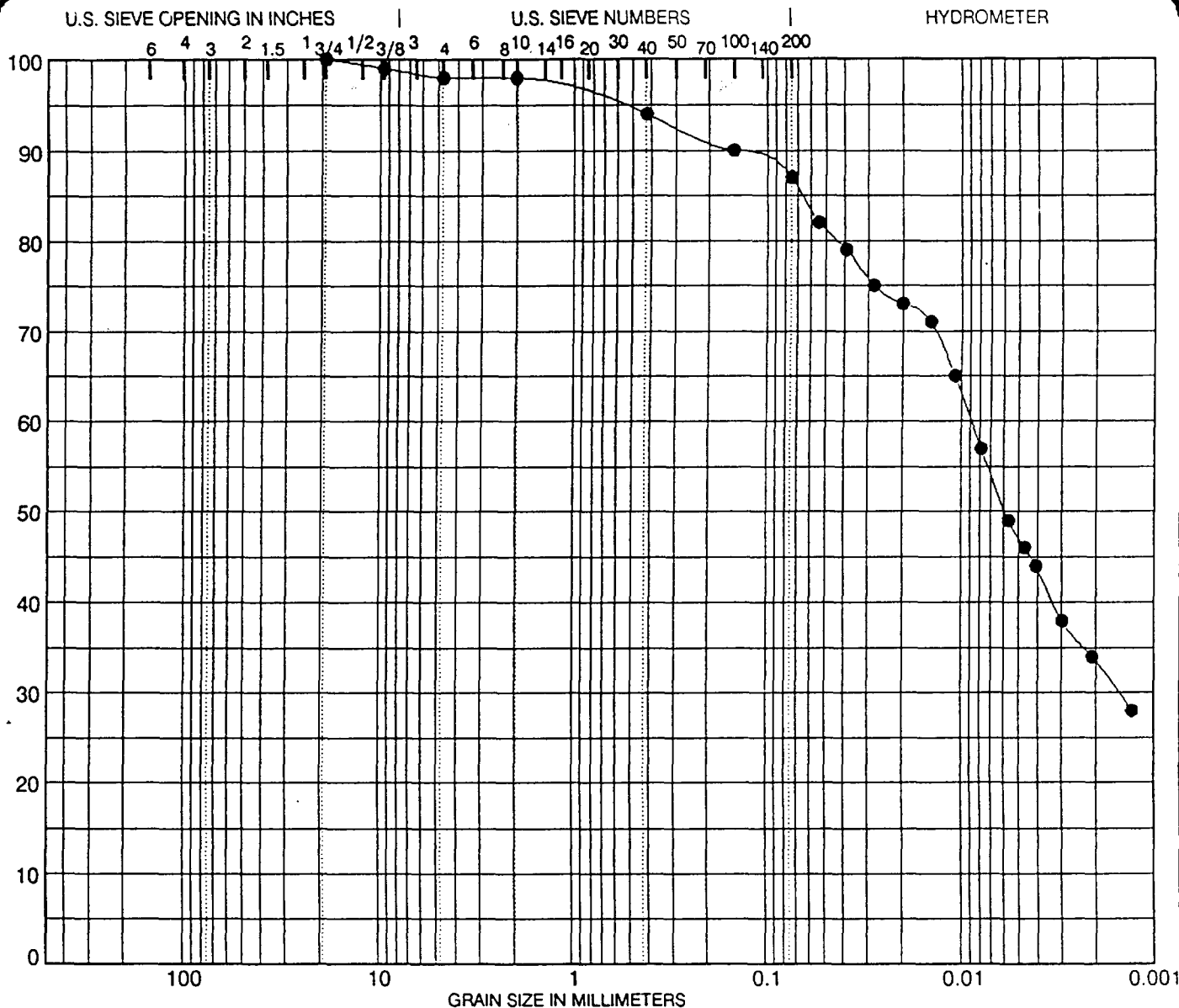
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-1A	3 inch	100	Brown and gray very silty CLAY, some sand, trace gravel (CL)			
Sample: 2	2	100				
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	5	29	36	30
	3/8	99				
	# 4	95				
	# 10	93				
	# 40	86				
	# 100	71				
	# 200	66				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



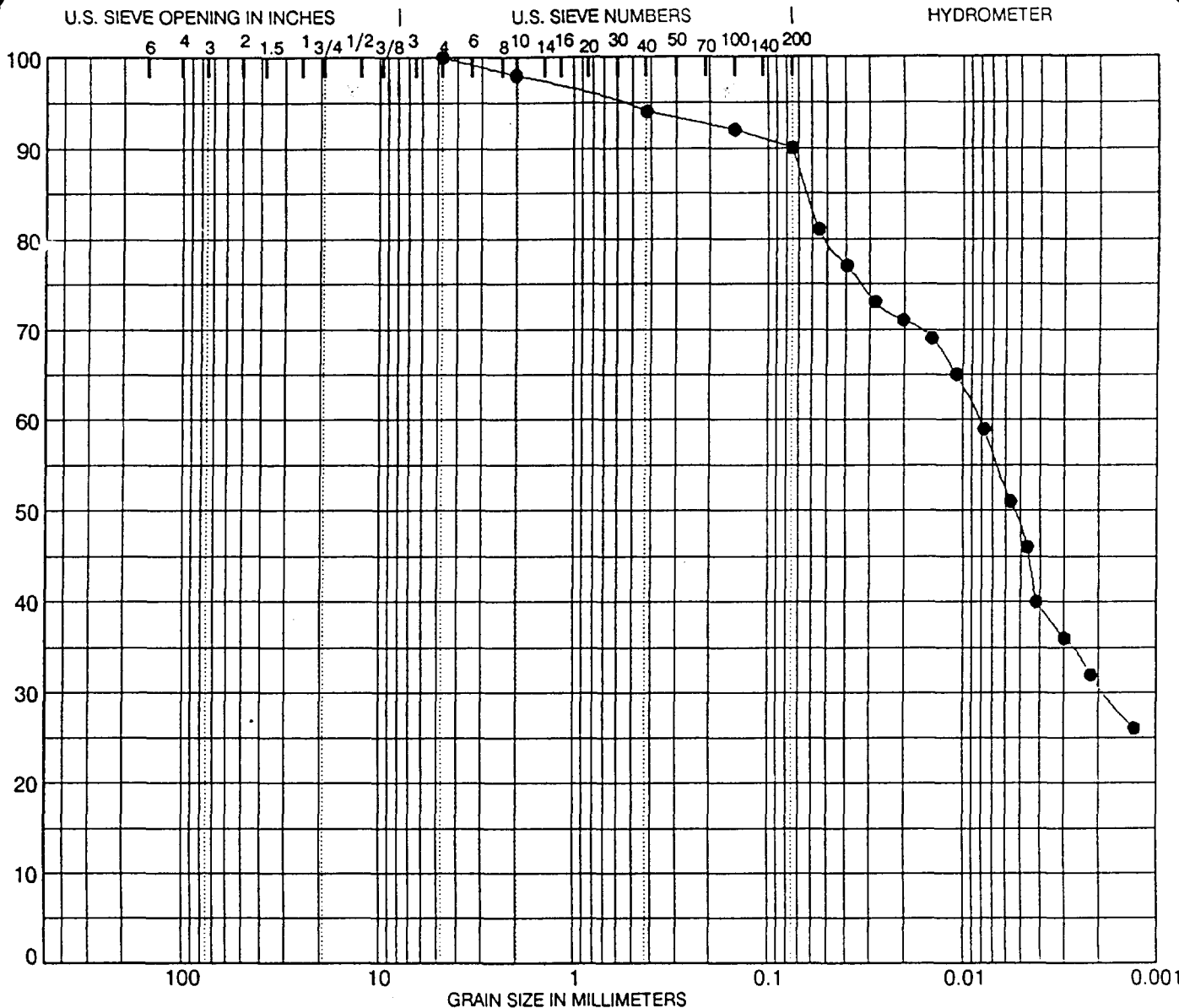
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-2	3 inch	100	Brown and gray silty CLAY, little sand, trace			
Sample: 2	2	100	gravel (CL)			
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	2	11	40	47
	3/8	99				
	# 4	98				
	# 10	98				
	# 40	94				
	# 100	90				
	# 200	87				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-4	3 inch	100	Brown and gray silty CLAY, trace sand (CL)			
Sample: 2	2	100				
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	0	10	42	48
	3/8	100				
	# 4	100				
	# 10	98				
	# 40	94				
	# 100	92				
	# 200	90				

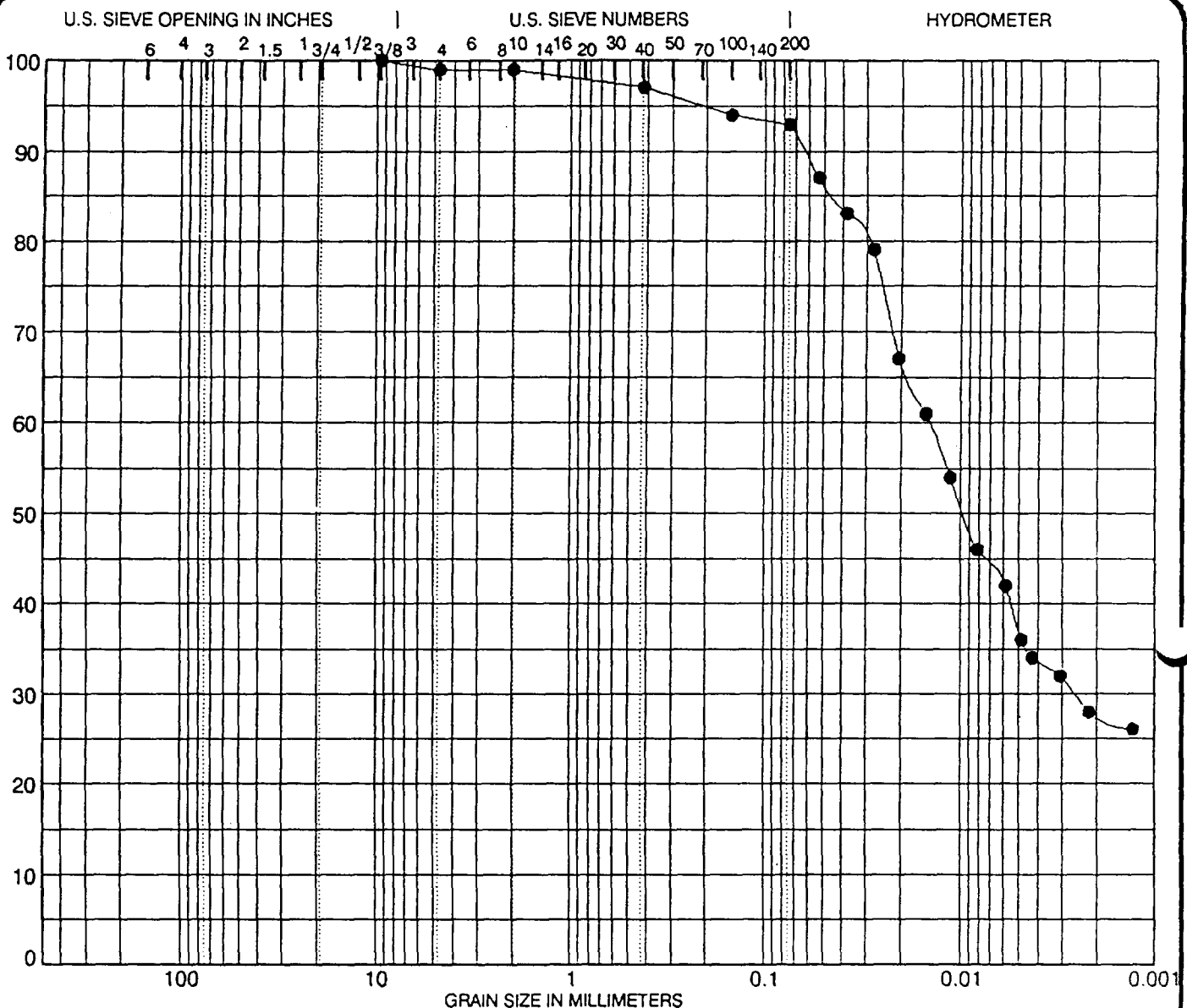
PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

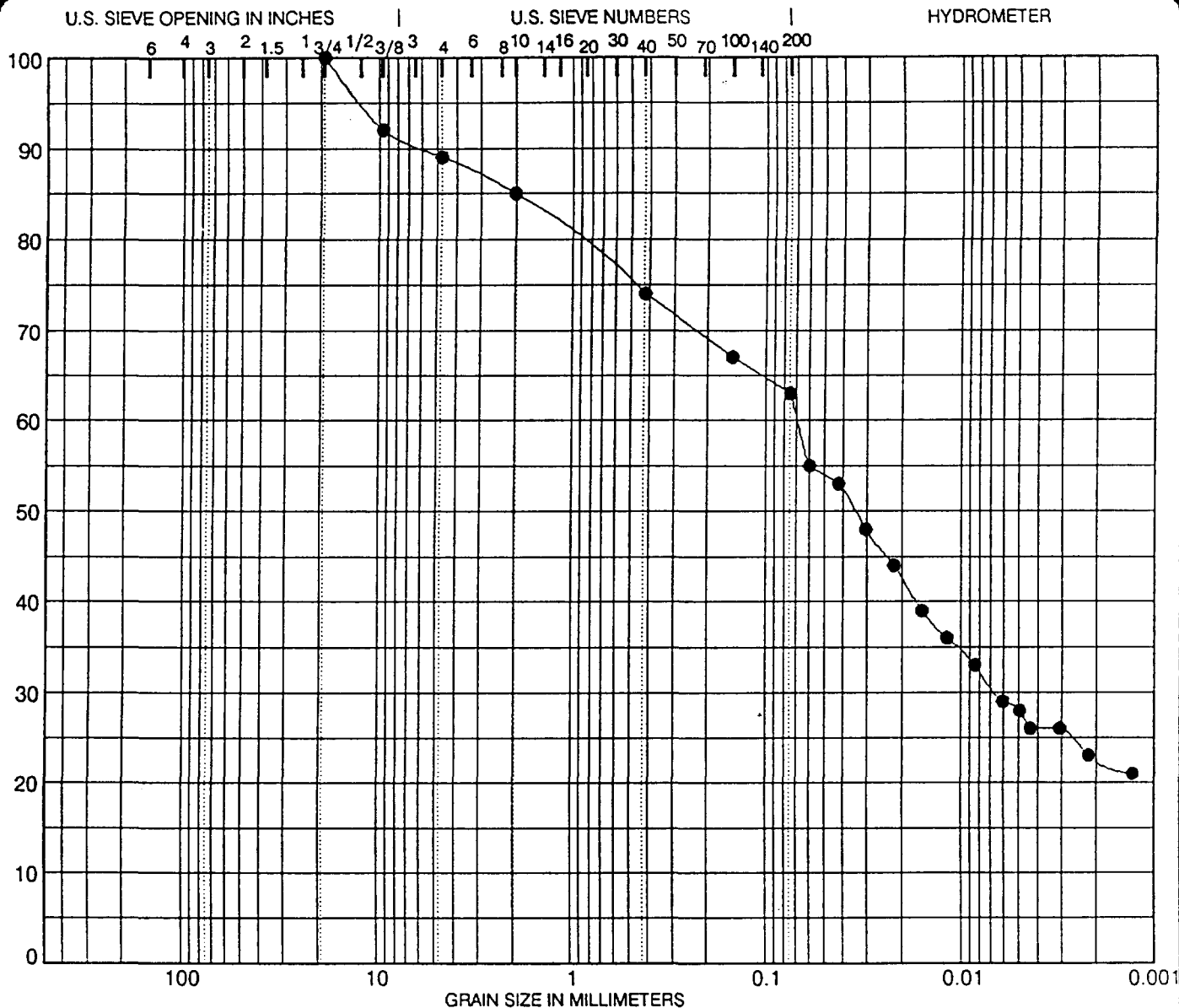
JOB NO. L 40,821
DATE October 31, 1996

10

SOIL DATA SHEET

Testing Service Corporation
CAROL STREAM



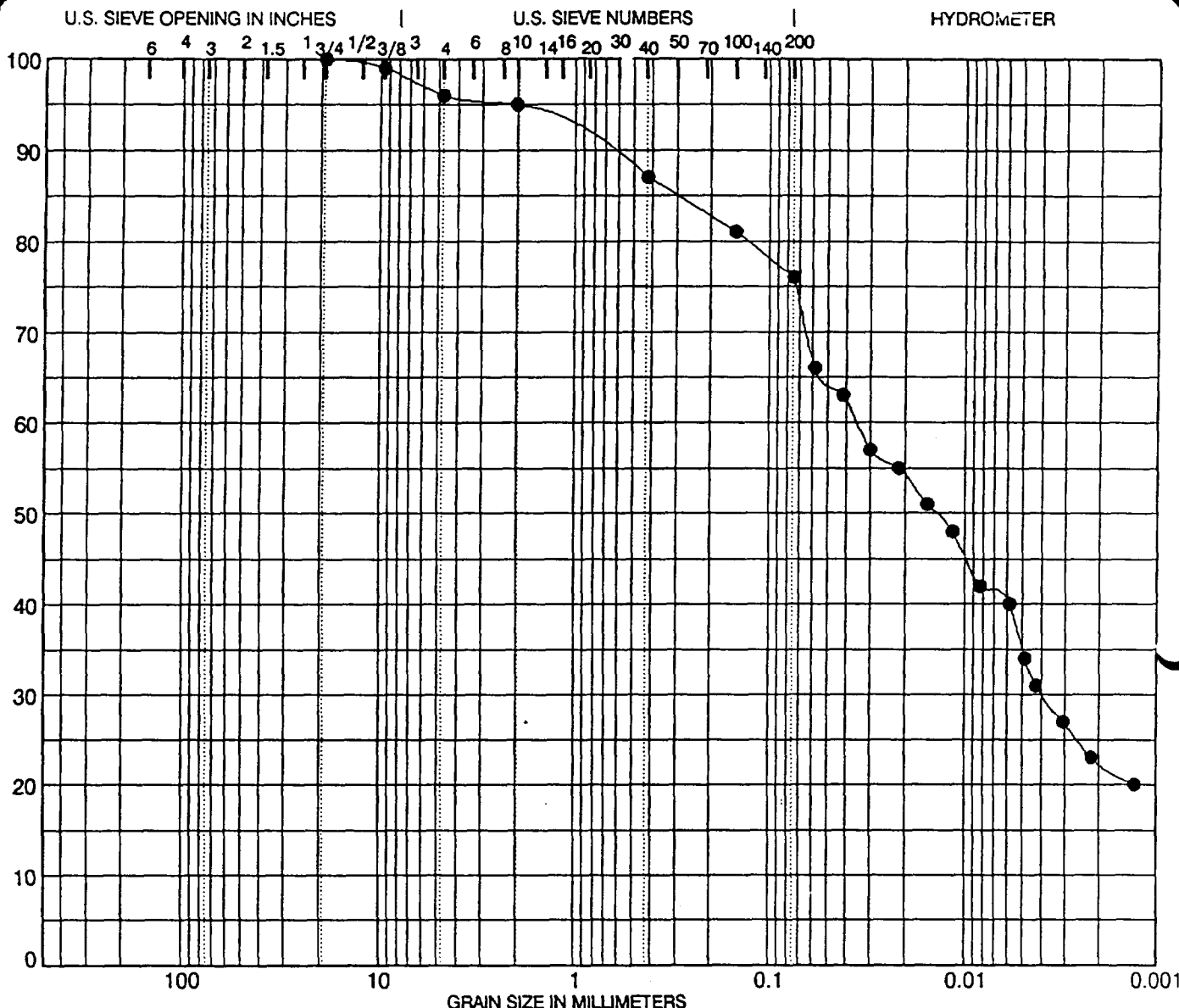


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-6	3 inch	100	Dark brown and gray very silty CLAY, some			
Sample: 4	2	100	sand, little gravel. trace organic (CL)			
Depth: 6-8	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	11	26	35	28
	3/8	92				
	# 4	89				
	# 10	85				
	# 40	74				
	# 100	67				
	# 200	63				

PROJECT LOCATION **Blackwell Forest Preserve - DuPage County, Illinois**

JOB NO. **L 40,821**
DATE **October 31, 1996**

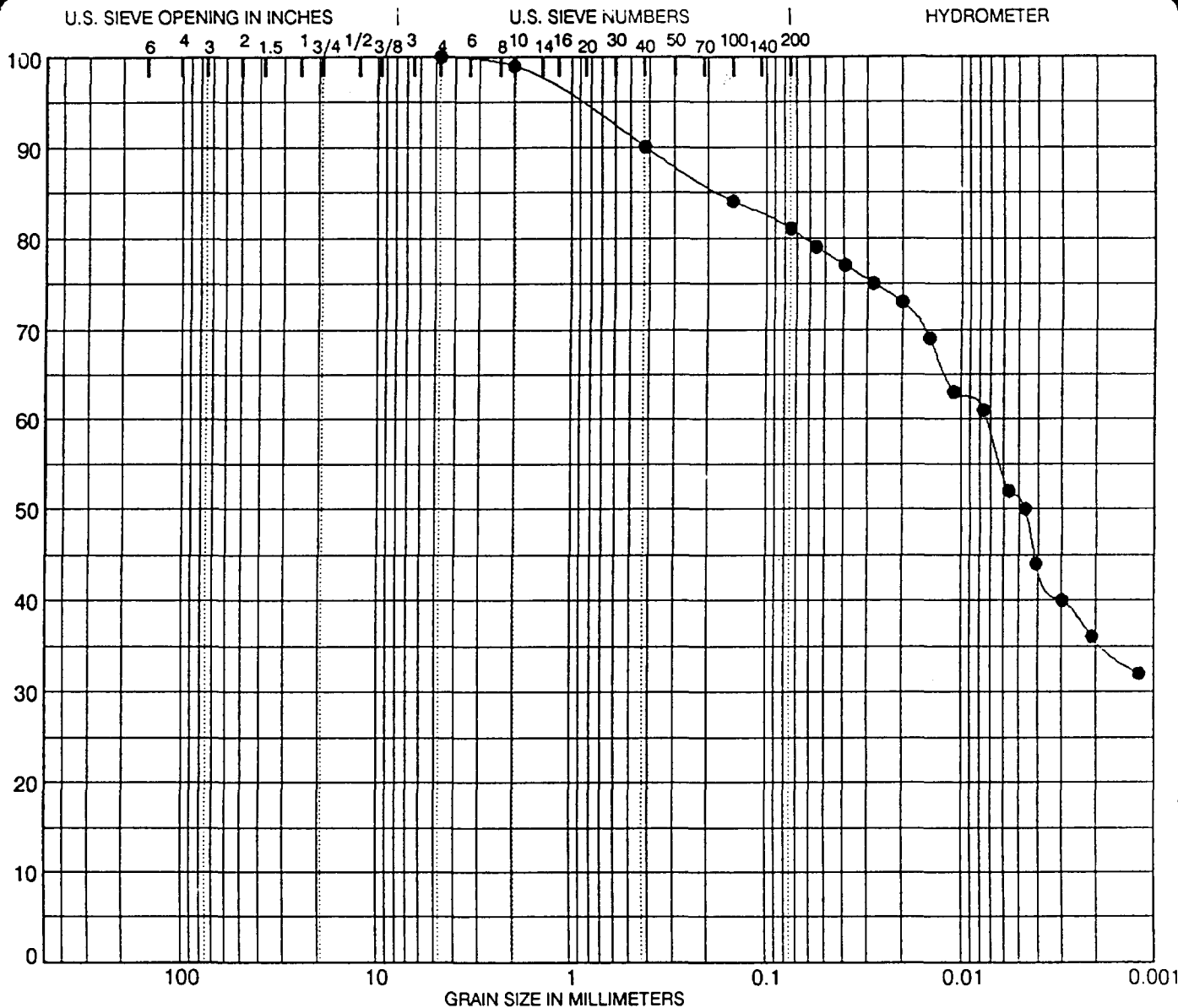


COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-7	3 inch	100	Gray and brown silty CLAY, little sand, trace gravel (CL)			
Sample: 2	2	100				
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	4	20	41	35
	3/8	99				
	# 4	96				
	# 10	95				
	# 40	87				
	# 100	81				
	# 200	76				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

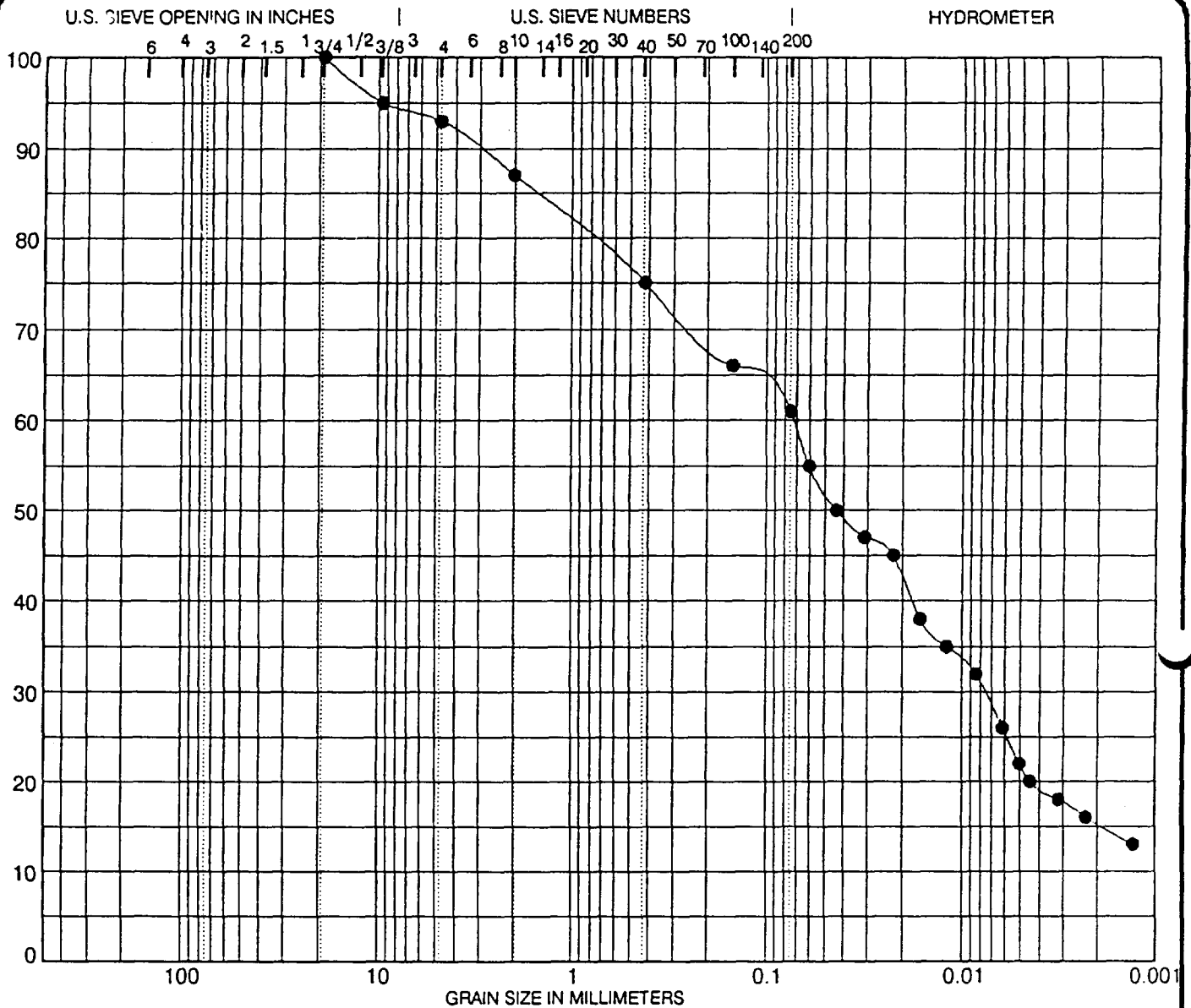
SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-8	3 inch	100	Brown and gray silty CLAY, little sand (CL)			
Sample: 3	2	100				
Depth: 4-6	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	0	19	30	51
	3/8	100				
	# 4	100				
	# 10	99				
	# 40	90				
	# 100	84				
	# 200	81				

PROJECT LOCATION Blackwell Forest Preserve - DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

16

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



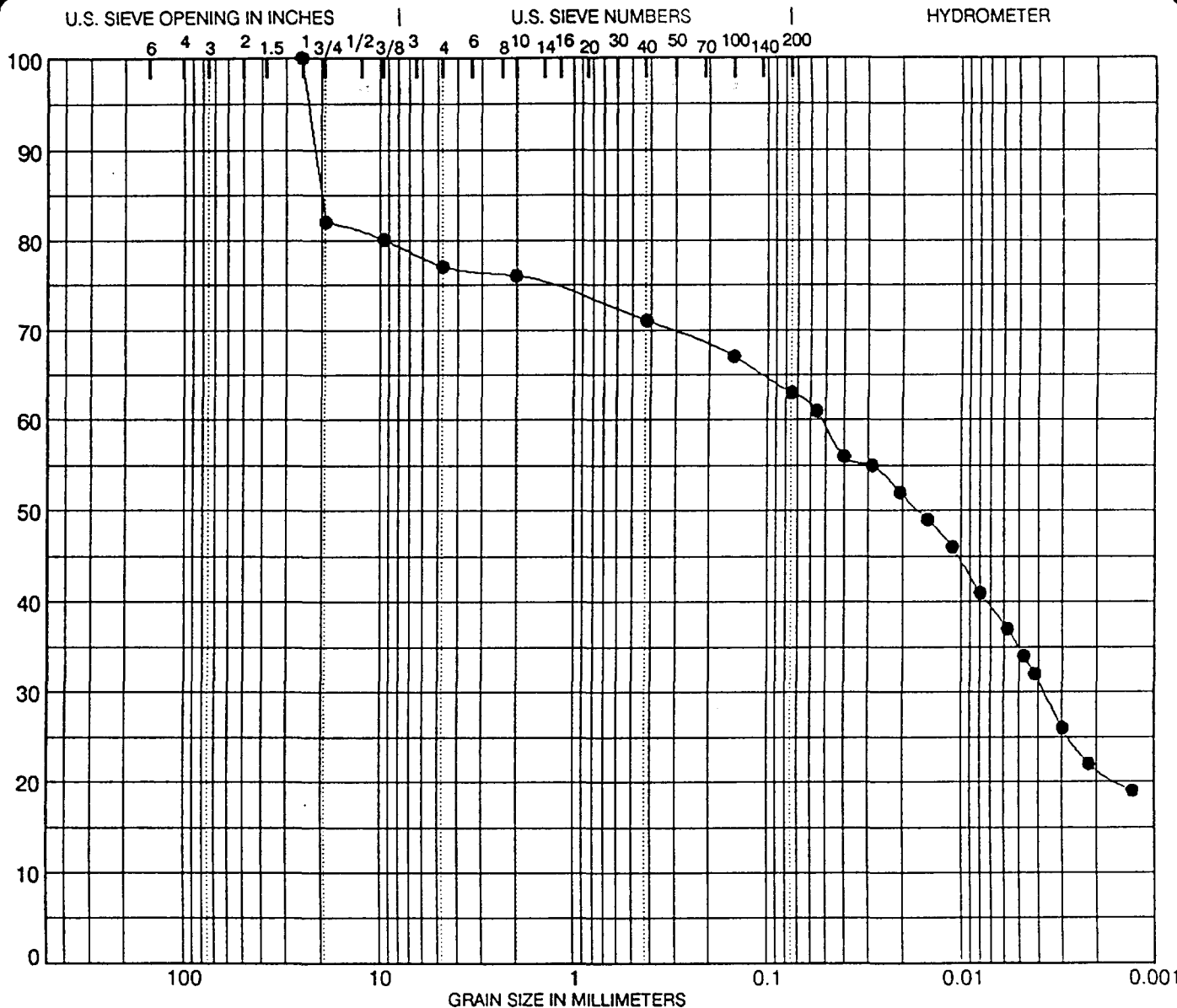
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-9	3 inch	100	Gray and brown very silty CLAY, some			
Sample: 2	2	100	sand, trace gravel (CL)			
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	7	32	39	22
	3/8	95				
	# 4	93				
	# 10	87				
	# 40	75				
	# 100	66				
	# 200	61				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



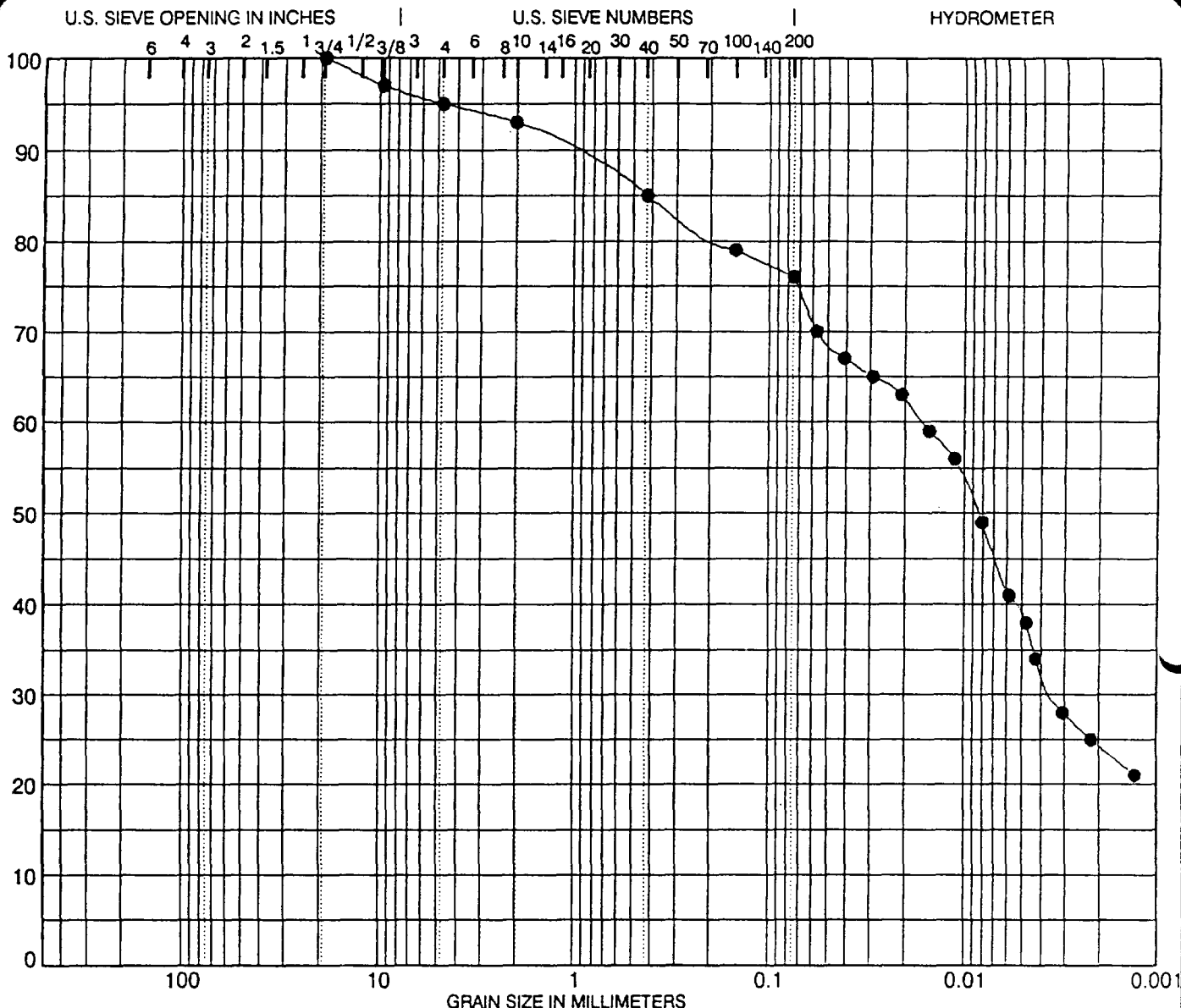
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-10	3 inch	100	Gray silty CLAY, little sand, some gravel			
Sample: 2	2	100	(CL)			
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	82	23	14	28	35
	3/8	80				
	# 4	77				
	# 10	76				
	# 40	71				
	# 100	67				
	# 200	63				

PROJECT LOCATION Blackwell Forest Preserve - DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

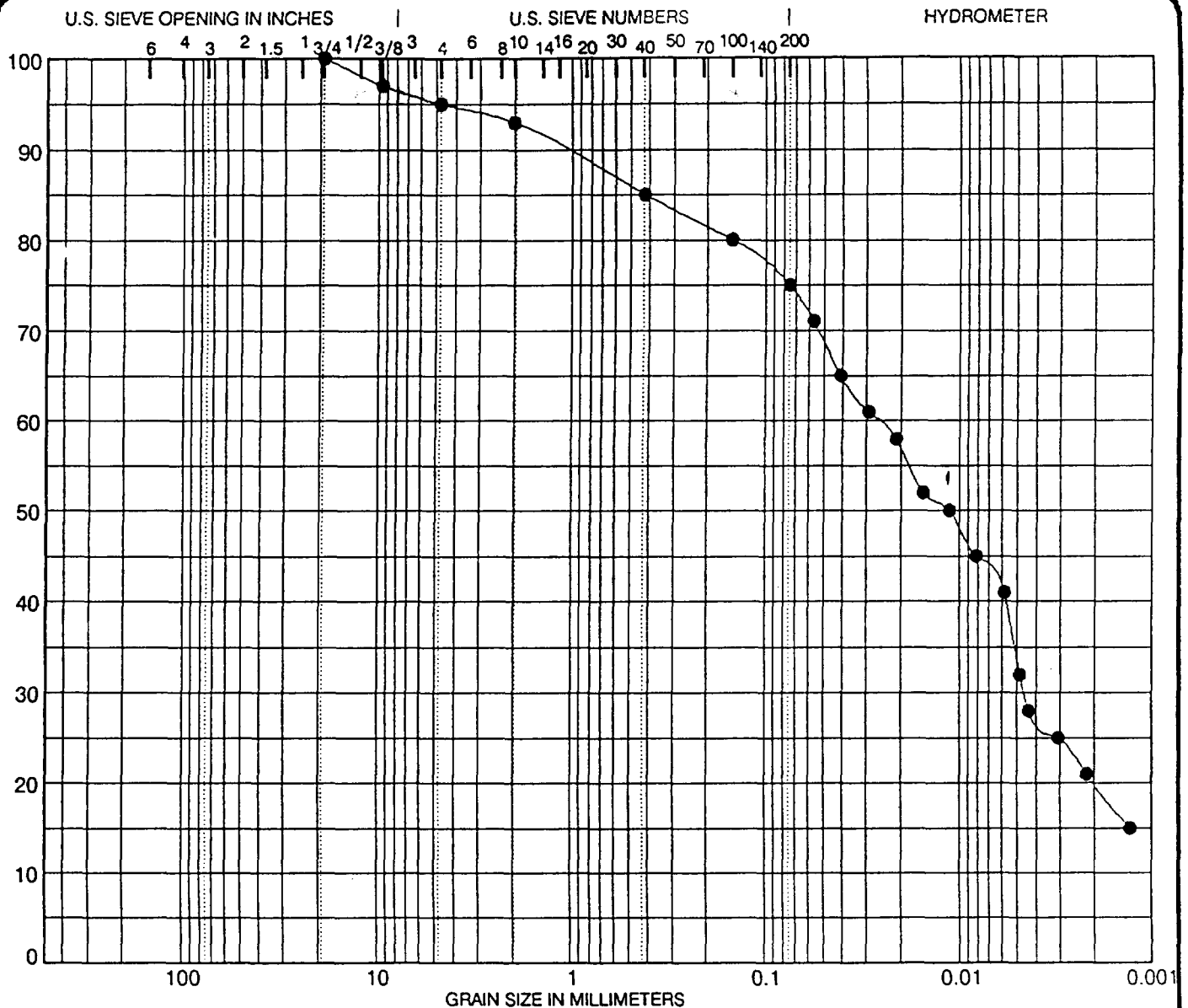
SPECIMEN IDENTIFICATION		SIEVE	% PASS	CLASSIFICATION			
Boring: TB-11		3 inch	100	Gray and brown silty CLAY, little sand, trace gravel (CL)			
Sample: 3		2	100				
Depth: 4-6		1 1/2	100				
		1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:		3/4	100	5	19	37	39
		3/8	97				
		# 4	95				
		# 10	93				
		# 40	85				
		# 100	79				
		# 200	76				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

3

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



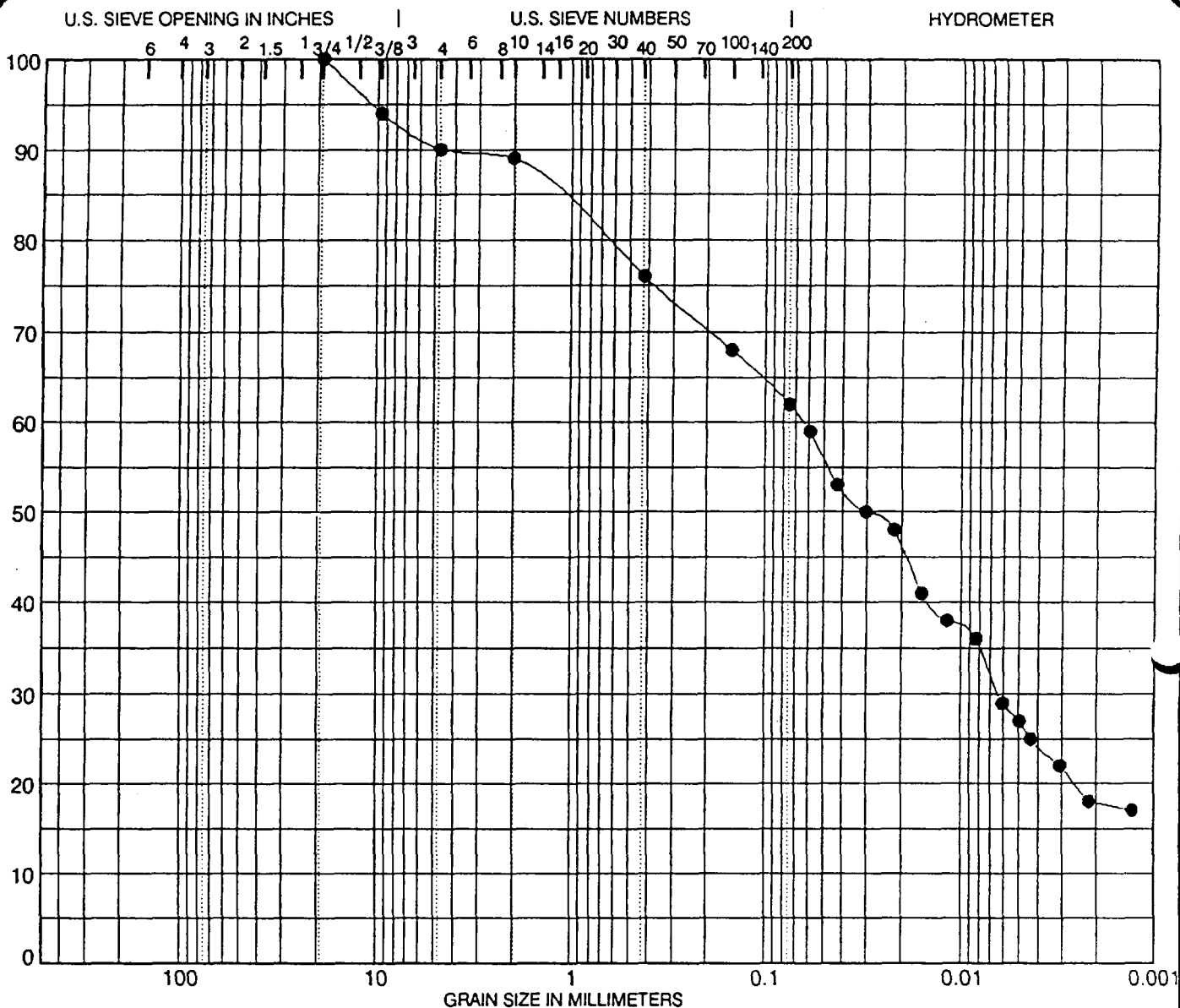
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-12	3 inch	100	Gray and brown silty CLAY, little sand,			
Sample: 4	2	100	trace gravel (CL)			
Depth: 6-8	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	5	20	42	33
	3/8	97				
	# 4	95				
	# 10	93				
	# 40	85				
	# 100	80				
	# 200	75				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION		SIEVE	% PASS	CLASSIFICATION			
Boring: TB-13		3 inch	100	Gray and brown very silty CLAY, some sand, trace gravel (CL)			
Sample: 4		2	100				
Depth: 6-8		1 1/2	100				
		1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:		3/4	100	10	28	35	27
		3/8	94				
		# 4	90				
		# 10	89				
		# 40	76				
		# 100	68				
		# 200	62				

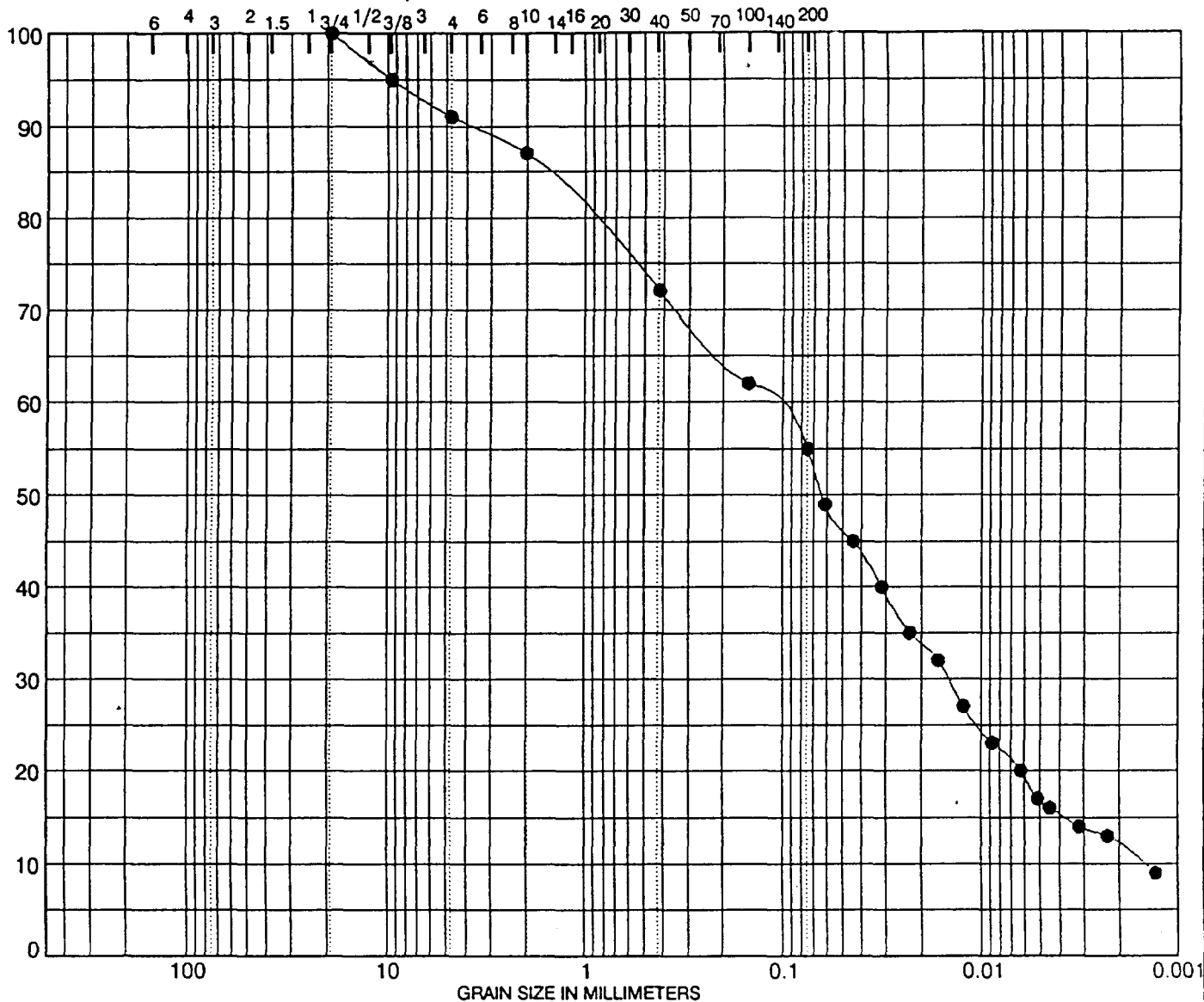
PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

U.S. SIEVE OPENING IN INCHES

U.S. SIEVE NUMBERS

HYDRICMETER



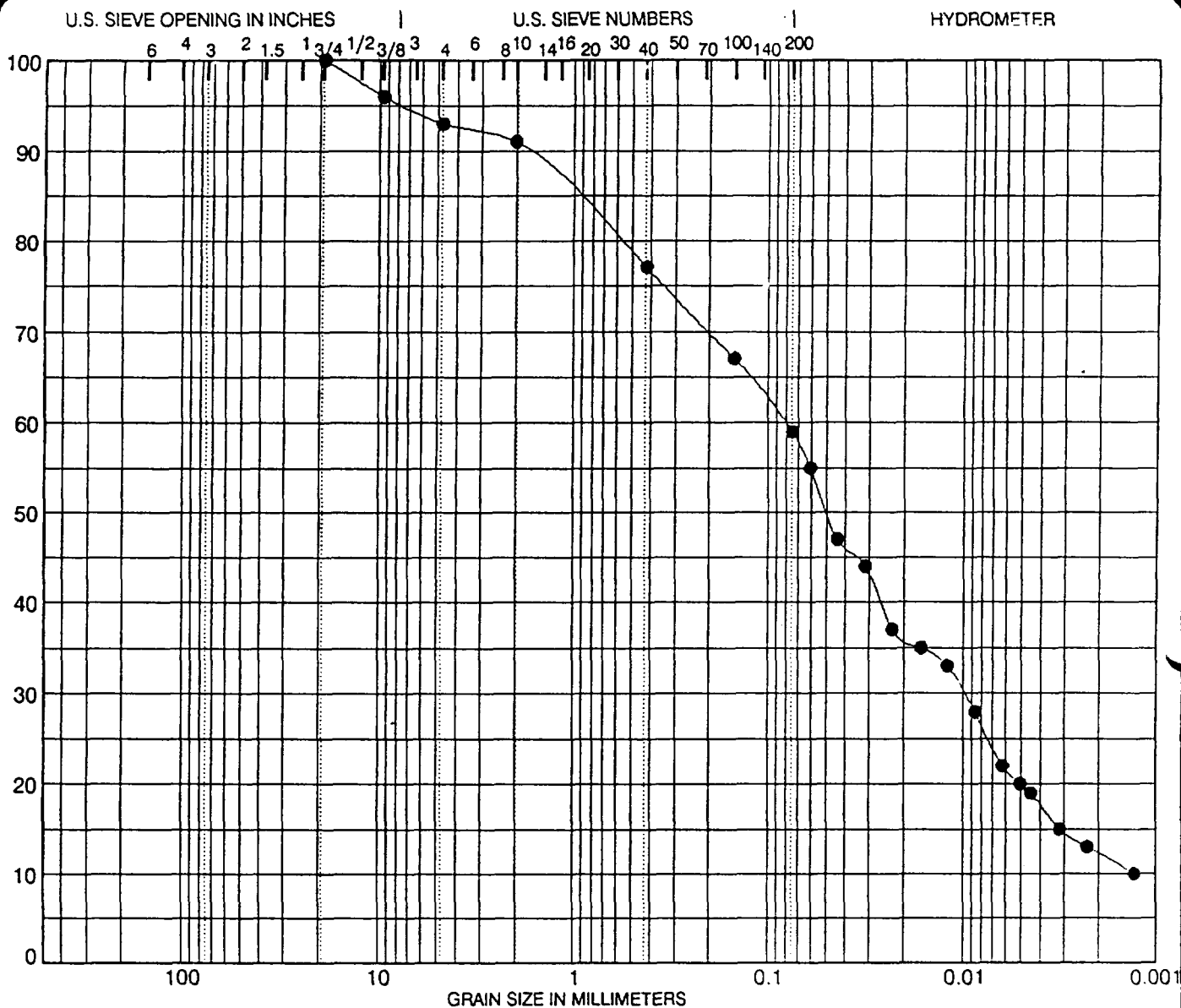
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-14	3 inch	100	Gray clayey SILT, some sand, trace gravel			
Sample: 7	2	100	(ML)			
Depth: 12-14	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	9	36	38	17
	3/8	95				
	# 4	91				
	# 10	87				
	# 40	72				
	# 100	62				
	# 200	55				

PROJECT Blackwell Forest Preserve -
 LOCATION DuPage County, Illinois

JOB NO. L 40,821
 DATE October 31, 1996

SOIL DATA SHEET
 Testing Service Corporation
 CAROL STREAM



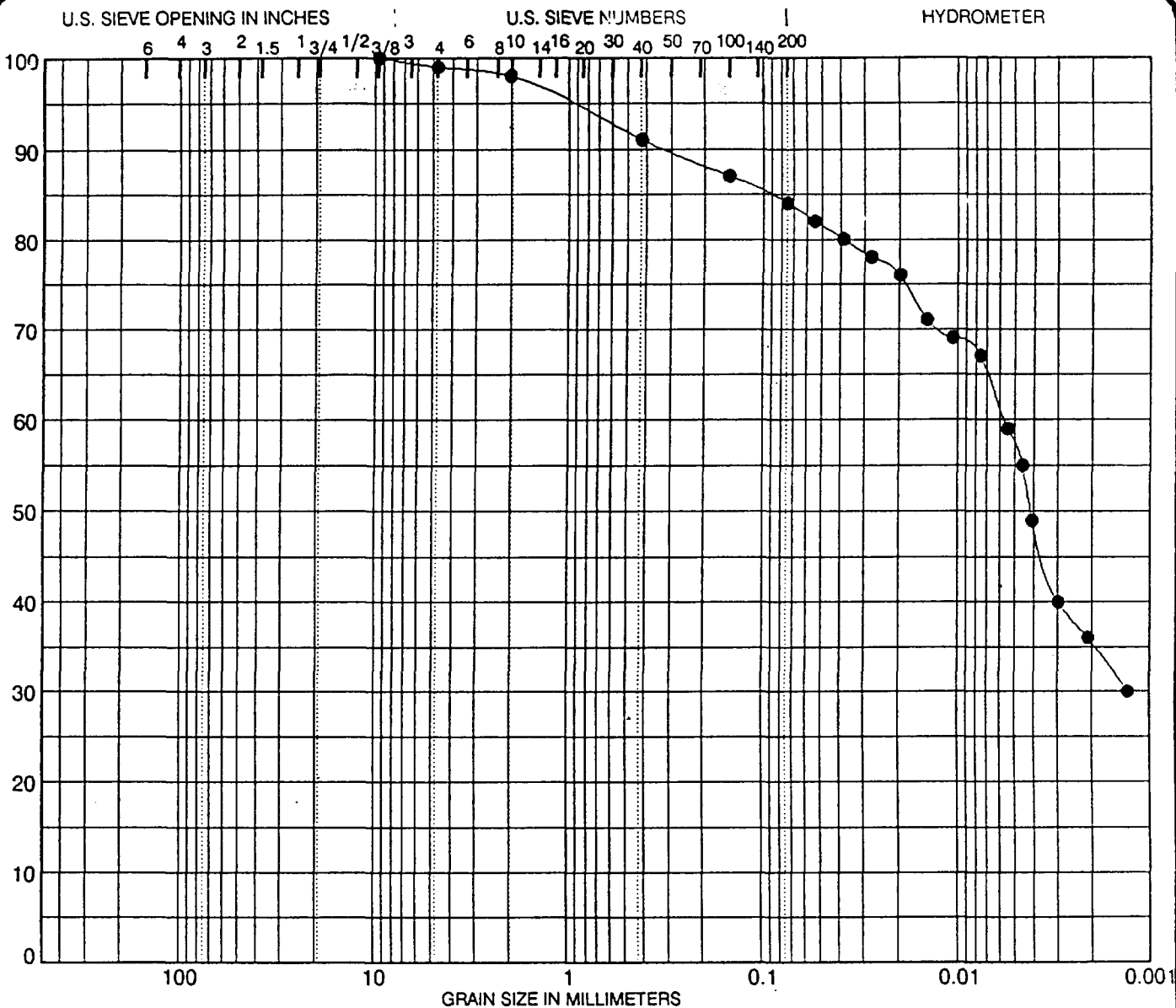
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-15	3 inch	100	Gray very silty CLAY, some sand, trace			
Sample: 4	2	100	gravel (CL)			
Depth: 6-8	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	7	34	39	20
	3/8	96				
	# 4	93				
	# 10	91				
	# 40	77				
	# 100	67				
	# 200	59				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

2
SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

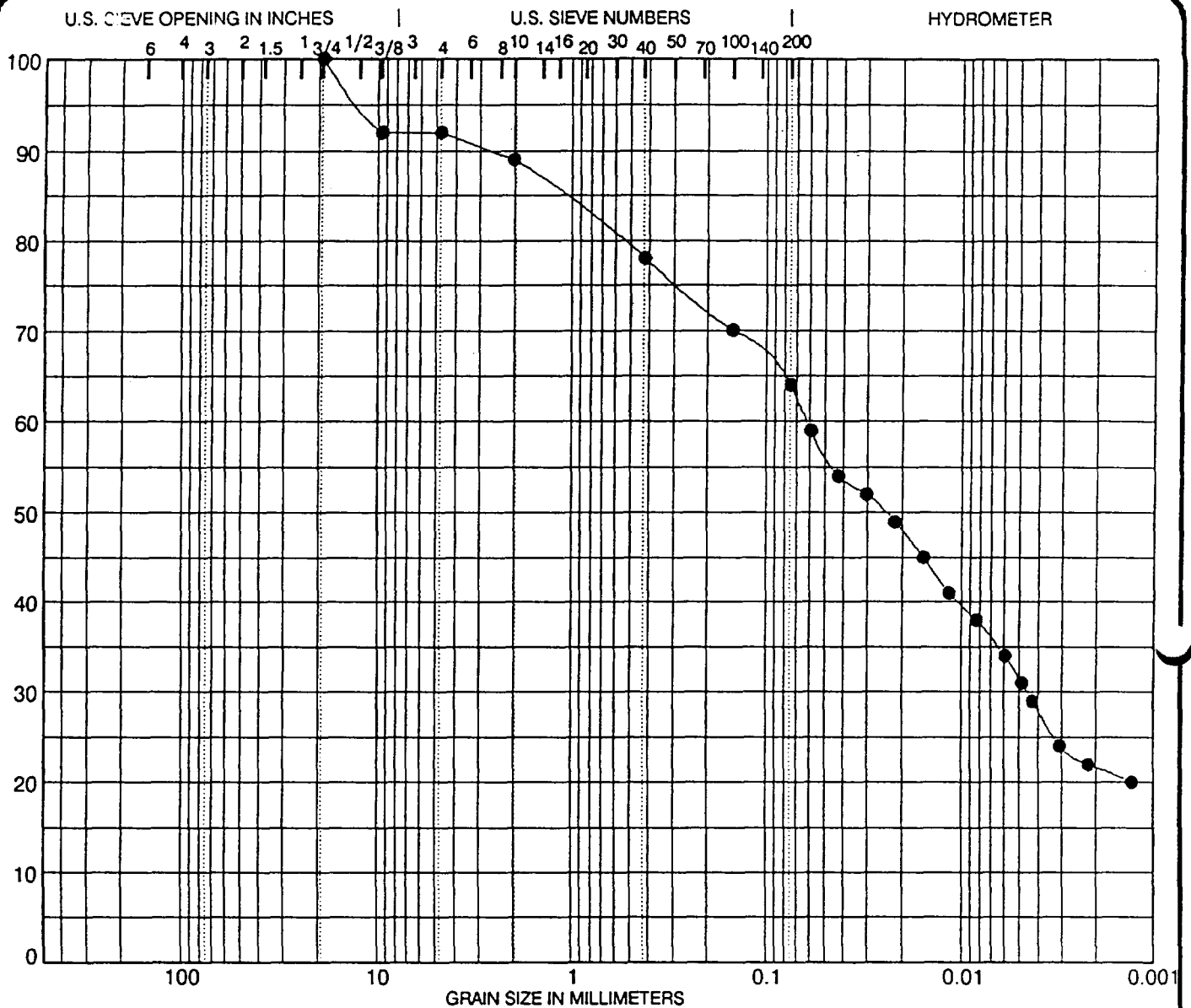
SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-16	3 inch	100	Brown and gray silty CLAY, little sand, trace			
Sample: 2	2	100	gravel (CL)			
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	1	15	27	57
	3/8	100				
	# 4	99				
	# 10	98				
	# 40	91				
	# 100	87				
	# 200	84				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

12

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



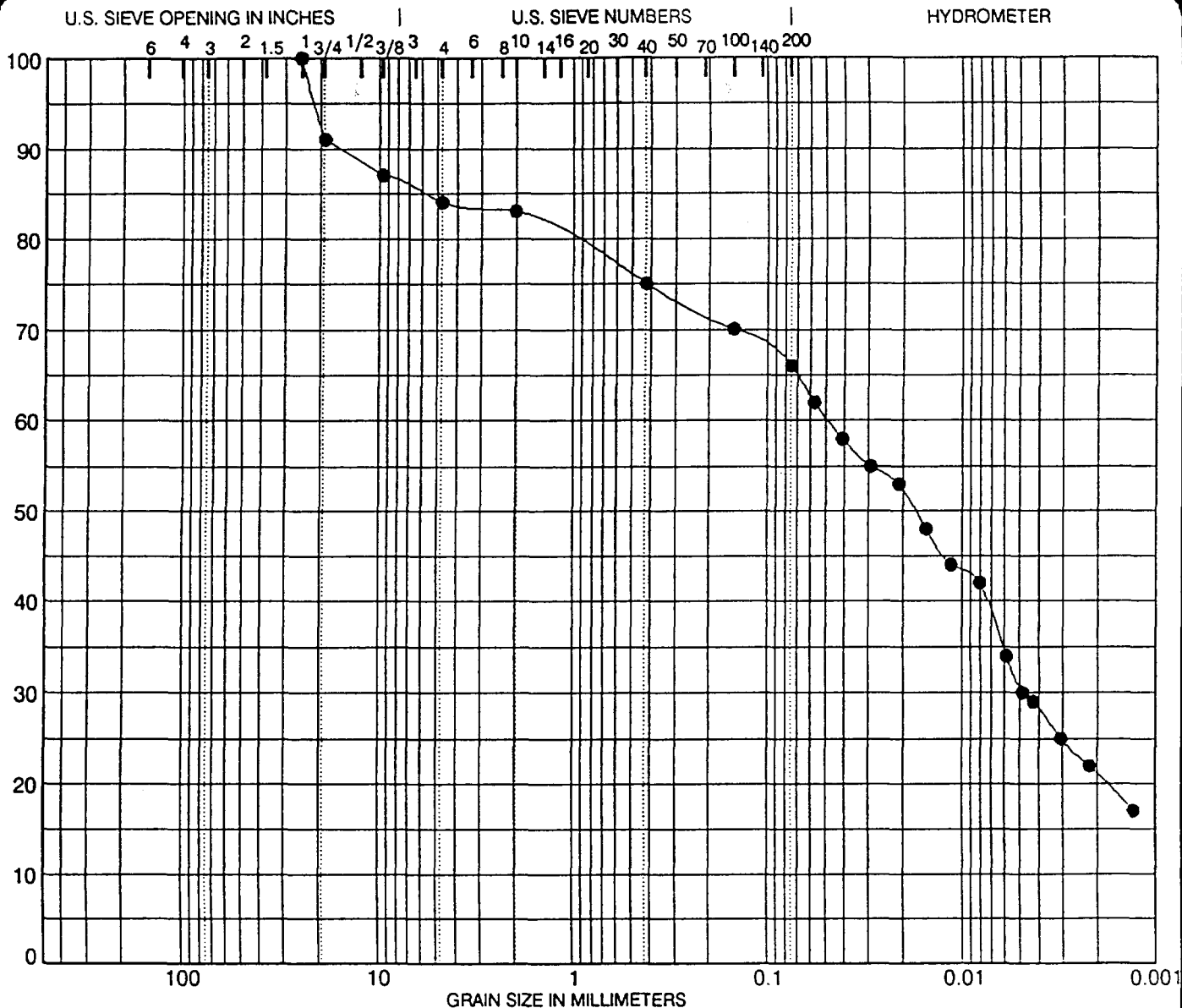
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

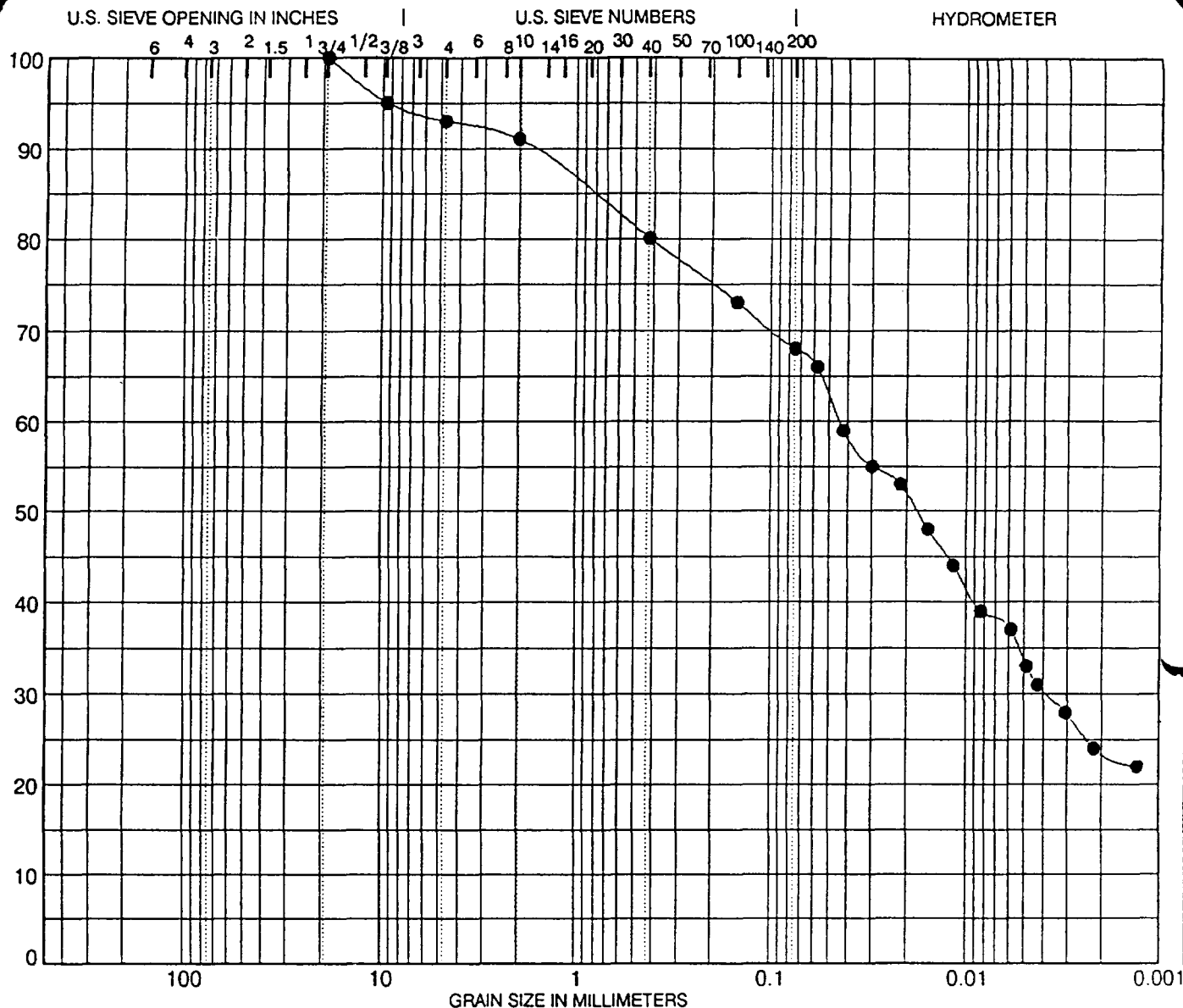
SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-17	3 inch	100	Gray and brown silty CLAY, some sand, trace gravel (CL)			
Sample: 2	2	100				
Depth: 2-4	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	8	28	33	31
	3/8	92				
	# 4	92				
	# 10	89				
	# 40	78				
	# 100	70				
	# 200	64				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM





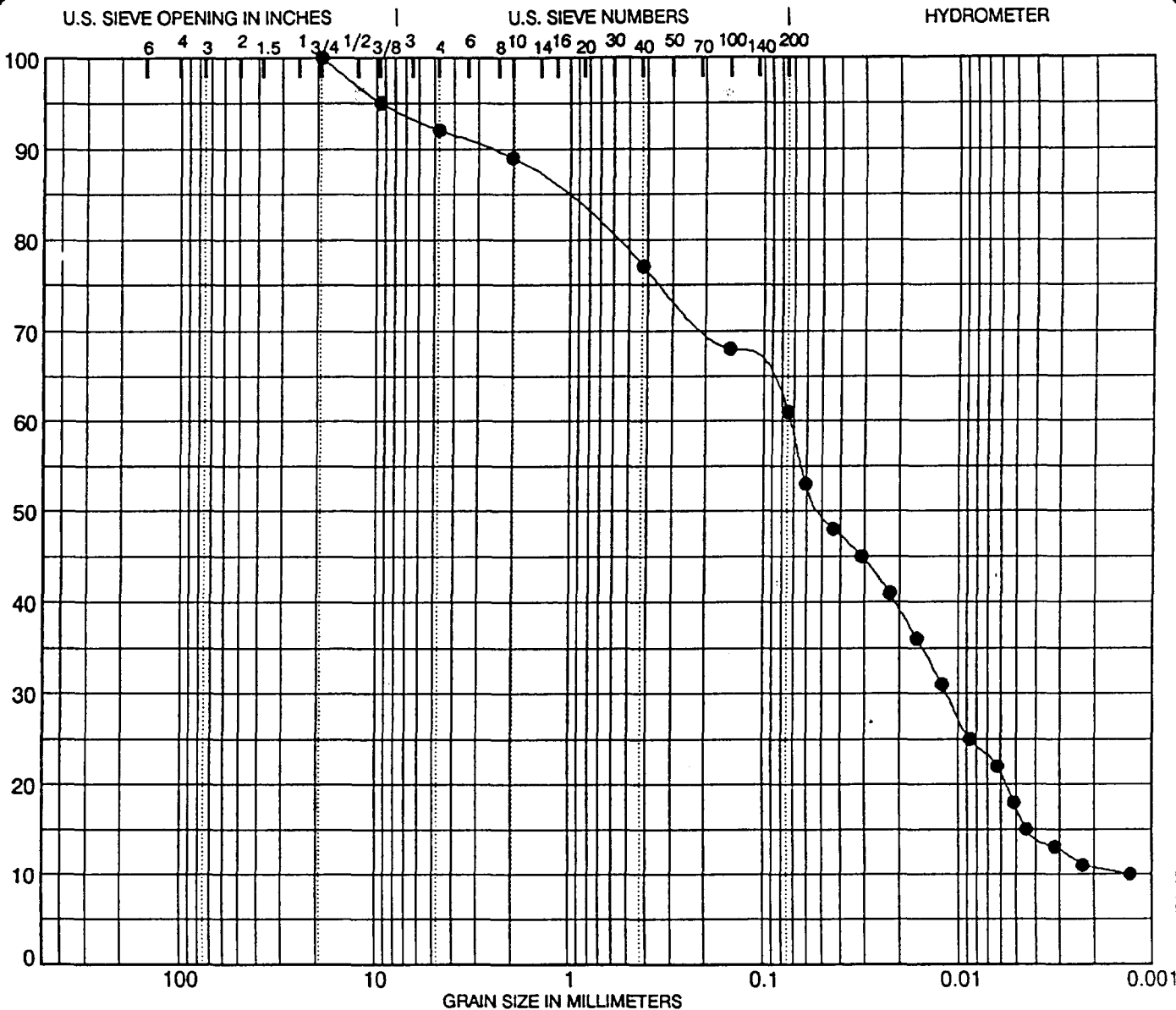
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-19	3 inch	100	Gray silty CLAY, some sand, trace gravel			
Sample: 8	2	100	(CL)			
Depth: 14-16	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	7	25	35	33
	3/8	95				
	# 4	93				
	# 10	91				
	# 40	80				
	# 100	73				
	# 200	68				

PROJECT Blackwell Forest Preserve -
LOCATION DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

SPECIMEN IDENTIFICATION	SIEVE	% PASS	CLASSIFICATION			
Boring: TB-20	3 inch	100	Gray and brown clayey SILT, some sand, trace gravel (ML)			
Sample: 4	2	100				
Depth: 6-8	1 1/2	100				
	1	100	%GRAVEL	%SAND	%SILT	%CLAY
NOTES:	3/4	100	8	31	44	17
	3/8	95				
	# 4	92				
	# 10	89				
	# 40	77				
	# 100	68				
	# 200	61				

PROJECT LOCATION Blackwell Forest Preserve - DuPage County, Illinois

JOB NO. L 40,821
DATE October 31, 1996

SOIL DATA SHEET
Testing Service Corporation
CAROL STREAM

D2

LABORATORY PERMEABILITY RESULTS

TESTING SERVICE CORPORATION
 TEST DATA SHEET
 TRIAXIAL PERMEABILITY TEST

JOB NO. : 40821
 LOCATION : TB - 1A
 DEPTH : 3'
 SAMPLE :

DATE : 10-14-96

SAMPLE DIMENSIONS

HEIGHT (l) 7.28 cm.
 DIAMETER: 7.23 cm
 AREA (A): 41.06 cm.^2
 VOLUME : 298.88 cm.^3
 PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 34.0 p.s.i
 INFLOW : 32.5 p.s.i
 BACK : 29.5 p.s.i
 GRADIENT : 29.0
 EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	1.60	22.10	20.50	231.46	5.44441	
195.0	2.80	21.00	18.20	229.16	5.43442	5.94E-08
210.0	4.00	19.70	15.70	226.66	5.42345	6.06E-08
945.0	8.10	15.00	6.90	217.86	5.38385	4.86E-08
270.0	9.80	13.80	4.00	214.96	5.37045	5.76E-08
190.0	10.00	13.00	2.60	213.56	5.36392	3.99E-08
960.0	14.70	8.70	-6.00	204.96	5.32281	4.97E-08
395.0	16.40	6.90	-9.50	201.46	5.30559	5.06E-08

HEAD EQUIVALENT :
 [(INFLOW P.-OUTFLOW P.)*70.32]
 211.0

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

$$K \text{ avg} = 4.6E-08 \text{ cm/sec}$$

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 2D
DEPTH : 3'
SAMPLE :

DATE : 10-24-96

SAMPLE DIMENSIONS

HEIGHT (l) 8.68 cm.
DIAMETER: 7.22 cm
AREA (A): 40.94 cm.^2
VOLUME : 355.37 cm.^3
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 46.0 p.s.i.
INFLOW : 44.5 p.s.i.
BACK : 41.5 p.s.i.
GRADIENT : 24.3
EFF. STRES 3.0 p.s.i.

-----TEST DATA-----

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	0.50	24.50	24.00	234.96	5.45942	
0.5	4.50	20.50	16.00	226.96	5.42477	9.61E-05
0.5	8.00	16.60	8.60	219.56	5.39163	9.19E-05
0.5	11.50	13.20	1.70	212.66	5.35969	8.86E-05
0.5	14.70	10.20	-4.50	206.46	5.33011	8.21E-05
0.5	18.20	6.80	-11.40	199.56	5.29611	9.43E-05
0.5	21.00	4.00	-17.00	193.96	5.26765	7.90E-05

HEAD EQUIVALENT :
[(INFLOW P. - OUTFLOW P.) * 70.32]
211.0

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 8.9E-05 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 4B
DEPTH : 12'
SAMPLE :

DATE : 10-24-96

SAMPLE DIMENSIONS

HEIGHT (l) 8.75 cm.
DIAMETER: 7.23 cm
AREA (A): 41.06 cm.²
VOLUME : 359.23 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 42.0 p.s.i.
INFLOW : 40.5 p.s.i.
BACK : 37.5 p.s.i.
GRADIENT : 24.1
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	0.80	24.00	23.20	234.16	5.45600	
160.0	14.30	10.20	-4.10	206.86	5.33204	1.08E-06
25.0	16.00	8.50	-7.50	203.46	5.31547	9.24E-07
17.0	17.20	7.40	-9.80	201.16	5.30410	9.32E-07
18.0	18.40	6.20	-12.20	198.76	5.29210	9.30E-07
55.0	21.80	2.80	-19.00	191.96	5.25729	8.82E-07
25.0	23.50	1.00	-22.50	188.46	5.23889	1.03E-06
10.0	24.00	0.50	-23.50	187.46	5.23357	7.42E-07

HEAD EQUIVALENT :

[(INFLOW P. - OUTFLOW P.) * 70.32]
211.0

$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$

K avg = 8.1E-07 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 6B
DEPTH : 8.5'
SAMPLE :

DATE : 10-28-96

SAMPLE DIMENSIONS

HEIGHT (l) 7.89 cm.
DIAMETER: 7.22 cm
AREA (A): 40.94 cm.²
VOLUME : 323.03 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 58.5 p.s.i.
INFLOW : 57.0 p.s.i.
BACK : 54.0 p.s.i.
GRADIENT : 26.8
EFF. STRES 3.0 p.s.i.

-----TEST DATA-----						
ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	1.50	20.80	19.30	230.26	5.43921	
65.0	2.50	19.80	17.30	228.26	5.43049	1.69E-07
70.0	3.40	18.70	15.30	226.26	5.42168	1.58E-07
100.0	4.70	17.10	12.40	223.36	5.40878	1.63E-07
115.0	6.30	15.70	9.40	220.36	5.39526	1.48E-07
100.0	7.50	14.30	6.80	217.76	5.38339	1.50E-07
975.0	18.80	2.60	-16.20	194.76	5.27177	1.44E-07
110.0	19.90	1.50	-18.40	192.56	5.26041	1.30E-07

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
211.0

$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$
K avg = 1.5E-07 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40841
LOCATION : TB - 8
DEPTH : 6.5'
SAMPLE :

DATE : 10-18-96

SAMPLE DIMENSIONS

HEIGHT (l) 7.89 cm.
DIAMETER: 7.19 cm
AREA (A): 40.60 cm.²
VOLUME : 320.35 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 53.5 p.s.i.
INFLOW : 52.0 p.s.i.
BACK : 49.0 p.s.i.
GRADIENT : 26.8
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	0.40	22.60	22.20	233.16	5.45172	
275.0	0.80	21.60	20.80	231.76	5.44570	2.78E-08
4045.0	8.00	13.20	5.20	216.16	5.37602	2.19E-08
240.0	8.40	12.70	4.30	215.26	5.37185	2.21E-08
220.0	8.70	12.20	3.50	214.46	5.36812	2.15E-08
970.0	10.30	10.40	0.10	211.06	5.35214	2.09E-08
170.0	10.50	10.10	-0.40	210.56	5.34977	1.77E-08
100.0	10.70	9.90	-0.80	210.16	5.34787	2.42E-08
85.0	10.90	9.80	-1.10	209.86	5.34644	2.14E-08

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
211.0

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 2.2E-08 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 12A
DEPTH : 18'
SAMPLE :

DATE : 10-21-96

SAMPLE DIMENSIONS

HEIGHT (l) 7.96 cm.
DIAMETER: 7.18 cm
AREA (A): 40.49 cm.²
VOLUME : 322.29 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 34.0 p.s.i.
INFLOW : 32.5 p.s.i.
BACK : 29.5 p.s.i.
GRADIENT : 26.5
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	1.10	22.90	21.80	232.76	5.45001	
195.0	2.20	21.60	19.40	230.36	5.43964	6.84E-08
220.0	3.40	20.20	16.80	227.76	5.42829	6.64E-08
955.0	8.20	14.80	6.60	217.56	5.38247	6.17E-08
185.0	9.10	13.80	4.70	215.66	5.37370	6.10E-08
100.0	9.50	13.30	3.80	214.76	5.36952	5.38E-08
85.0	10.00	12.90	2.90	213.86	5.36532	6.35E-08
95.0	10.40	12.40	2.00	212.96	5.36110	5.71E-08

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
211.0

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 6.2E-08 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 13
DEPTH : 8'
SAMPLE :

DATE : 10-9-96

SAMPLE DIMENSIONS

HEIGHT (l) 9.14 cm.
DIAMETER: 7.19 cm
AREA (A): 40.60 cm.²
VOLUME : 371.10 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 34.0 p.s.i.
INFLOW : 32.5 p.s.i.
BACK : 29.5 p.s.i.
GRADIENT : 23.1
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	1.30	22.00	20.70	231.66	5.44527	
110.0	3.30	20.00	16.70	227.66	5.42785	2.33E-07
75.0	4.50	18.70	14.20	225.16	5.41681	2.17E-07
85.0	5.80	17.20	11.40	222.36	5.40430	2.17E-07
65.0	6.80	16.20	9.40	220.36	5.39526	2.05E-07
65.0	7.80	15.10	7.30	218.26	5.38569	2.17E-07
70.0	8.90	14.10	5.20	216.16	5.37602	2.03E-07
950.0	19.30	3.00	-16.30	194.66	5.27125	1.62E-07
110.0	19.90	2.00	-17.90	193.06	5.26300	1.10E-07

HEAD EQUIVALENT :

[(INFLOW P. - OUTFLOW P.) * 70.32]
211.0

$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$

K avg = 2.0E-07 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 13C
DEPTH : 5'
SAMPLE :

DATE : 10-17-96

SAMPLE DIMENSIONS

HEIGHT (l) 3.84 cm.
DIAMETER: 3.44 cm
AREA (A): 9.29 cm.^2
VOLUME : 35.69 cm.^3
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 31.5 p.s.i
INFLOW : 31.0 p.s.i
BACK : 30.0 p.s.i
GRADIENT : 18.3
EFF. STRES 1.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	1.20	23.80	22.60	92.92	4.53174	
1.0	1.80	23.20	21.40	91.72	4.51874	3.51E-05
1.0	2.30	22.70	20.40	90.72	4.50778	2.96E-05
1.0	2.80	22.20	19.40	89.72	4.49669	3.00E-05
1.0	3.30	21.70	18.40	88.72	4.48549	3.03E-05
1.0	3.80	21.20	17.40	87.72	4.47110	3.06E-05
1.0	4.30	20.70	16.40	86.72	4.46268	3.10E-05
1.0	4.70	20.30	15.60	85.92	4.45342	2.50E-05
1.0	5.20	19.80	14.60	84.92	4.44171	3.16E-05

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
70.3

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 3.0E-05 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 15
DEPTH : 7.5
SAMPLE :

DATE : 10-22-96

SAMPLE DIMENSIONS

HEIGHT (l) 7.89 cm.
DIAMETER: 7.18 cm
AREA (A): 40.49 cm.²
VOLUME : 319.46 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 68.0 p.s.i.
INFLOW : 66.5 p.s.i.
BACK : 63.5 p.s.i.
GRADIENT : 26.8
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	0.60	23.20	22.60	233.56	5.45344	
2725.0	6.70	16.00	9.30	220.26	5.39481	2.74E-08
135.0	6.90	15.70	8.80	219.76	5.39254	2.15E-08
100.0	7.10	15.50	8.40	219.36	5.39071	2.32E-08
215.0	7.40	15.00	7.60	218.56	5.38706	2.17E-08
975.0	9	12.90	3.50	214.46	5.36812	2.48E-08
110.0	9.60	12.70	3.10	214.06	5.36626	2.16E-08
140.0	9.90	12.40	2.50	213.46	5.36345	2.56E-08

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
211.0

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 2.4E-08 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 15A
DEPTH : 8'
SAMPLE :

DATE : 10-22-96

SAMPLE DIMENSIONS

HEIGHT (l) 8.00 cm.
DIAMETER: 7.15 cm
AREA (A): 40.15 cm.²
VOLUME : 321.21 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 40.0 p.s.i.
INFLOW : 38.5 p.s.i.
BACK : 35.5 p.s.i.
GRADIENT : 26.4
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	1.10	22.00	20.90	231.86	5.44613	
125.0	3.20	19.80	16.60	227.56	5.42741	1.95E-07
100.0	5.00	18.10	13.10	224.06	5.41191	2.02E-07
20.0	5.20	17.90	12.70	223.66	5.41013	1.16E-07
40.0	5.90	17.20	11.30	222.26	5.40385	2.05E-07
25.0	6.30	16.80	10.50	221.46	5.40024	1.88E-07
95.0	7.60	15.30	7.70	218.66	5.38752	1.75E-07
45.0	8.30	14.70	6.40	217.36	5.38155	1.73E-07
940.0	20.10	2.80	-17.30	193.66	5.26610	1.60E-07

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
211.0

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 1.8E-07 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 18
DEPTH : 4'
SAMPLE :

DATE : 10-14-96

SAMPLE DIMENSIONS

HEIGHT (l) 3.89 cm.
DIAMETER: 3.49 cm
AREA (A): 9.57 cm.²
VOLUME : 37.21 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 31.0 p.s.i.
INFLOW : 30.5 p.s.i.
BACK : 29.5 p.s.i.
GRADIENT : 18.1
EFF. STRES 1.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	12.90	6.60	-6.30	64.02	4.15920	
5.0	13.00	5.90	-7.10	63.22	4.14662	6.69E-06
5.0	13.10	5.30	-7.80	62.52	4.13549	5.92E-06
5.0	13.30	4.80	-8.50	61.82	4.12423	5.99E-06
5.0	13.50	4.10	-9.40	60.92	4.10956	7.80E-06
5.0	13.70	3.60	-10.10	60.22	4.09800	6.15E-06

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
70.3

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 6.5E-06 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAxIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 18B
DEPTH : 7'
SAMPLE :

DATE : 10-28-96

SAMPLE DIMENSIONS

HEIGHT (l) 7.82 cm.
DIAMETER: 7.16 cm
AREA (A): 40.26 cm.²
VOLUME : 314.86 cm.³
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 66.0 p.s.i.
INFLOW : 64.5 p.s.i.
BACK : 61.5 p.s.i.
GRADIENT : 27.0
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	0.50	22.00	21.50	232.46	5.44872	
135.0	1.20	21.30	20.10	231.06	5.44268	5.69E-08
100.0	1.50	20.90	19.40	230.36	5.43964	3.85E-08
215.0	2.20	19.90	17.70	228.66	5.43224	4.38E-08
975.0	6.10	15.90	9.80	220.76	5.39708	4.58E-08
110.0	6.50	15.50	9.00	219.96	5.39345	4.19E-08
65.0	6.70	15.20	8.50	219.46	5.39117	4.45E-08
75.0	7.00	14.90	7.90	218.86	5.38843	4.64E-08

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
211.0

$$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$$

K avg = 4.0E-08 cm/sec

TESTING SERVICE CORPORATION
TEST DATA SHEET
TRIAXIAL PERMEABILITY TEST

JOB NO. : 40821
LOCATION : TB - 20D
DEPTH : 8'
SAMPLE :

DATE : 10-17-96

SAMPLE DIMENSIONS

HEIGHT (l 7.62 cm.
DIAMETER: 7.26 cm
AREA (A): 41.40 cm.^2
VOLUME : 315.44 cm.^3
PIPETTE -AREA (a): 0.785 cm.

TEST PRESSURES

CELL : 42.0 p.s.i
INFLOW : 40.5 p.s.i
BACK : 37.5 p.s.i
GRADIENT : 27.7
EFF. STRES 3.0 p.s.i.

TEST DATA

ELAPSED TIME MINUTES (t)	INFLOW READING	OUTFLOW READING (X)	(X-Y)	HEAD EQUIVALENT (h)	ln	K (CM/SEC)
	2.00	22.00	20.00	230.96	5.44224	
5.0	2.30	21.80	19.50	230.46	5.44008	5.22E-07
30.0	3.30	20.80	17.50	228.46	5.43136	3.50E-07
35.0	4.60	19.60	15.00	225.96	5.42036	3.79E-07
50.0	6.20	17.90	11.70	222.66	5.40565	3.54E-07
100.0	9.70	14.50	4.80	215.76	5.37417	3.79E-07
20.0	10.40	13.80	3.40	214.36	5.36766	3.92E-07
40.0	11.70	12.60	0.90	211.86	5.35593	3.53E-07
25.0	12.50	11.70	-0.80	210.16	5.34787	3.88E-07

HEAD EQUIVALENT :
[(INFLOW P.-OUTFLOW P.)*70.32]
211.0

$K = [(a \cdot l) / (2A \cdot t)] \cdot \ln(h_1/h_2)$
K avg = 3.9E-07 cm/sec



MONTGOMERY WATSON

CHAIN OF CUSTODY RECORD

SPECIAL
INSTRUCTIONS:

- ☐ PECFA
☐ WILUST
☐ ACT 307
☐ REPORT DRY WT
☐ OTHER:

TURNAROUND

- ☐ 2 WEEKS (standard)
☐ 1 WEEK
☐ 3 DAYS
☐ 1 DAY

PROJECT NAME: BLACKWELL		PROJECT #: 3920.0041	
CITY: DuPage County		STATE: IL	
SAMPLER(S): D. A. P. / h			
COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID
10-7-96		X	BW-SSTB09-4'
		X	BW-SSTB10-4'
		X	BW-SSTB11-6'
		X	BW-SSTB12-8'
		X	BW-SSTB13-8'
		X	BW-SSTB14-14'
		X	BW-SSTB15-8'
		X	BW-SSTB10-4 1/2'
		X	BW-SSTB12-8'
		X	BW-SSTB13-8'
10-7-96		X	BW-SSTB15-7 1/2'

NO. OF CONTAINERS	GRAIN SIZE	FALLING HEAD PERMEABILITY	REMARKS	LAB USE ONLY	
				MATRIX	LAB NO.
1	X				
1	X				
1	X				
1	X				
1	X				
1	X				
1	X				
1	X				
1	X				
1	X				
1	X				
1	X				

SPECIAL INSTRUCTIONS: TSC Drill Crew Drop off Samples AT Their LAB (IN-HOUSE)

TAMPER EVIDENT SEAL INTACT? ____ YES ____ NO ____ NOT PRESENT

SEAL NO.: _____

SAMPLES RECEIVED ON ICE? ____ YES ____ NO TEMP: _____ °C

PROJ. MGR: **PETE VASY**

SIGNATURE	DATE	TIME	SIGNATURE	DATE	TIME
RELINQUISHED BY: D. A. P. / h	10/7/96	1615	RECEIVED BY: Robert Brants	10/7/96	1615
RELINQUISHED BY:			RECEIVED BY: Larry Schward	10/8/96	8:00
RELINQUISHED BY:			RECEIVED BY:		
RELINQUISHED BY:			RECEIVED FOR LABORATORY BY:		

C-O-C No. 013778

NAME OF COURIER: _____

AIRBILL NUMBER: _____



MONTGOMERY WATSON

CHAIN OF CUSTODY RECORD

SPECIAL
INSTRUCTIONS:

- ☐ PECFA
☐ WILUST
☐ ACT 307
☐ REPORT DRY WT
☐ OTHER:

TURNAROUND

- ☐ 2 WEEKS (standard)
☐ 1 WEEK
☐ 3 DAYS
☐ 1 DAY

PROJECT NAME:		PROJECT #:		NO. OF CONTAINERS	REMARKS	LAB USE ONLY	
CITY:		STATE:				MATRIX	LAB NO.
COLLECTION DATE	COLLECTION TIME	GEAR/COMP	SAMPLE ID				
10-8-96		X	BW-SSTB16-4'	X	1		
10-9-96		X	BW-SSTB20-8'	X	1		
			BW-SSTB19-16'	X	1		
			BW-SSTB18-4'	X	1		
			BW-SSTB17-4'	X	1		
			BW-SSTB08-6'	X	1		
			BW-SSTB20-17'	X	1		
			BW-SSTB18-4'	X	1		
			BW-SSTB08-6 1/2'	X	2		
			BW-SSTB02-4'	X	1		
10-9-96		X	BW-SSTB02-3 1/2'	X	1		

Falling Head Permeability
Grain Size

*Shake Tube AND Bag Sample
Use Better of two.

SPECIAL INSTRUCTIONS: TSC Drill Crew Deliver Samples to their IN-HOUSE LAB.

TAMPER EVIDENT SEAL INTACT? ____ YES ____ NO ____ NOT PRESENT
SEAL NO.: _____
SAMPLES RECEIVED ON ICE? ____ YES ____ NO TEMP: _____ °C

PROJ. MGR.: *PETE VAGT*

SIGNATURE	DATE	TIME	SIGNATURE	DATE	TIME
RELINQUISHED BY: <i>Drill Crew</i>	10/9/96		RECEIVED BY: <i>Robert Hato</i>	10-9-96	
RELINQUISHED BY:			RECEIVED BY: <i>Larry Jochum</i>	10-10-96	
RELINQUISHED BY:			RECEIVED BY:		
RELINQUISHED BY:			RECEIVED FOR LABORATORY BY:		

C-O-C No. 013777

NAME OF COURIER: _____

AIRBILL NUMBER: _____



MONTGOMERY WATSON

CHAIN OF CUSTODY RECORD

SPECIAL INSTRUCTIONS:

TURNAROUND

☐ PECFA
☐ WILUST
☐ ACT 307
☐ REPORT DRY WT
☐ OTHER:

☐ 2 WEEKS (standard)
☐ 1 WEEK
☐ 3 DAYS
☐ 1 DAY

PROJECT NAME:		PROJECT #:		NO. OF CONTAINERS	REMARKS	LAB USE ONLY	
CITY:		STATE:				MATRIX	LAB NO.
SAMPLER(S)							
COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID				
10-9-96		X	BW-SSTB04-4'	X	1		
		X	BW-SSTB04-4 1/2'	X	1		
		X	BW-SSTB07-3 1/2'	X	1		
		X	BW-SSTB06-8'	X	1		
10-9-96		X	BW-SSTB06	X	1		
10-9-96		X	BW-SSTB03		1		
		X	BW-SSTB01		1		
10-9-96		X	BW-SSTB05-4'	X	1		

SPECIAL INSTRUCTIONS: _____
 TAMPER EVIDENT SEAL INTACT? ____ YES ____ NO ____ NOT PRESENT
 PROJ. MGR: PETE VAGT

TSC. Dr. 11 new deliver samples
to IN House LAB

TAMPER EVIDENT SEAL INTACT? YES NO NOT PRESENT

SEAL NO.:

SAMPLES RECEIVED ON ICE? YES NO TEMP: 10 °C

PROJ. MGR.	
------------	--

ROJ. MGR.:
PETE VAGT

SIGNATURE		DATE	TIME	SIGNATURE		DATE	TIME
RELINQUISHED BY:	<i>D. H. 17</i>	10/9/96		RECEIVED BY:	<i>Robert Probst</i>	10/9/96	
RELINQUISHED BY:				RECEIVED BY:	<i>Larry Schwald</i>	10/10/96	
RELINQUISHED BY:				RECEIVED BY:			
RELINQUISHED BY:				RECEIVED FOR LABORATORY BY:			

C-O-C No. 013771

NAME OF COURIER:

AIRBILL NUMBER:



CHAIN OF CUSTODY RECORD

3rd Edition

32
Dafin
SPECIAL

TILBIAPOURIN

SPECIAL INSTRUCTIONS:

☐ PECFA
☐ WILUST
☐ ACT 307
☐ REPORT DRY WT
☐ OTHER:

☐ 2 WEEKS (standard)
☐ 1 WEEK
☐ 3 DAYS
☐ 1 DAY

C-O-C No. 013775

NAME OF COURIER:

AIRBILL NUMBER:



CHAIN OF CUSTODY RECORD

TURNAROUND

☐ 2 WEEKS (standard)
☐ 1 WEEK
☐ 3 DAYS
☐ 1 DAY

[illegible]

SIGNATURE	DATE	TIME	SIGNATURE	DATE	TIME
RELINQUISHED BY: <i>[Signature]</i>			RECEIVED BY: <i>[Signature]</i>	10/10/88	
RELINQUISHED BY:			RECEIVED BY: <i>[Signature]</i>	11/16/82	
RELINQUISHED BY:			RECEIVED BY:		
RELINQUISHED BY:			RECEIVED FOR LABORATORY BY:		

C-O-C No. 013774

NAME OF COURIER:

AIRBILL NUMBER: _____



MONTGOMERY WATSON

CHAIN OF CUSTODY RECORD

SPECIAL INSTRUCTIONS:

- ☐ PECFA
☐ WL LUST
☐ ACT 307
☐ REPORT DRY WT
☐ OTHER:

TURNAROUND

- ☐ 2 WEEKS (standard)
☐ 1 WEEK
☐ 3 DAYS
☐ 1 DAY

PROJECT NAME BLACKWELL LANDFILL			PROJECT #: 3920.0041		NO. OF CONTAINERS	FALLING HEAD PERMEABILITY										
CITY: DuPage County			STATE: IL													
SAMPLER(S) D.A. Pecht																
COLLECTION DATE	COLLECTION TIME	GRAB COMP	SAMPLE ID		NO. OF CONTAINERS	REMARKS	LAB USE ONLY									
							MATRIX	LAB NO.								
10-17-96		X	BW-STTB 15(A)-8'		1	X										
		X	BW-STTB 12(A)-18'		1	X										
		X	BW-STTB 1(C)(E)-10'		1	X										
		X	BW-STTB 2(D)-3'		1	X										
		X	BW-STTB 4(B)-12'		1	X										
10-17-96		X	BW-STTB 6(B)-8 1/2'		1	X										

SPECIAL INSTRUCTIONS:

TSC Drill Crew Deliver Samples
to Their in-house LAB

TAMPER EVIDENT SEAL INTACT? ____ YES ____ NO ____ NOT PRESENT

SEAL NO.: _____

SAMPLES RECEIVED ON ICE? ____ YES ____ NO TEMP: _____ °C

PROJ. MGR:

Pete Vagt

SIGNATURE	DATE	TIME	SIGNATURE	DATE	TIME
RELINQUISHED BY: <i>D.A. Pecht</i>	10/17/96	1200	RECEIVED BY: <i>Robert Pecht</i>	10/17	
RELINQUISHED BY:			RECEIVED BY: <i>Larry Lockwood</i>	10/18/96	
RELINQUISHED BY:			RECEIVED BY:		
RELINQUISHED BY:			RECEIVED FOR LABORATORY BY:		

C-O-C No. 013795

NAME OF COURIER: _____

AIRBILL NUMBER: _____



E



E

WELL REDEVELOPMENT FORMS

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill
Location DuPage County
Developed By DAP/ACC

Well No. G117
Project No. 3920.0041
Checked By _____

<p>1. Can this well be purged dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/></p> <p>surged with bailer and pumped <input type="checkbox"/></p> <p>surged with block and bailed <input type="checkbox"/></p> <p>surged with block and pumped <input type="checkbox"/></p> <p>surged with block, bailed and pumped <input type="checkbox"/></p> <p>compressed air <input type="checkbox"/></p> <p>bailed only <input type="checkbox"/></p> <p>pumped only <input checked="" type="checkbox"/></p> <p>pumped slowly <input type="checkbox"/></p> <p>Other _____ <input type="checkbox"/></p> <p>3. Time spent developing well _____ 9 0 min.</p> <p>Total well depth (TOC) (GS) _____ 2 9 0 ft. (From well construction summary)</p> <p>Measured well depth (Before) _____ 3 0 0 ft.</p> <p>Measured well depth (After) _____ 3 0 0 ft.</p> <p>5. Inside diameter of well _____ 4 0 0 in.</p> <p>6. Volume of water in filter pack and well casing _____ 2 4 4 gal.</p> <p>7. Volume of water removed from well _____ 2 4 0 0 gal.</p> <p>Relative recovery rate _____ ft. per. _____ min.</p> <p>Volume of water added (if any) <u>None</u> _____ gal.</p> <p>9. Source of water added <u>None</u></p>	<p>10 Depth to Water (from top of well casing)</p> <p>a. _____ 1 4 9 2 ft.</p> <p>b. <u>10 / 23 / 96</u> mm dd yy Date: <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.</p> <p>c. <u>10 : 40</u> _____ Time: <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.</p> <p>11 Sediment in well bottom: _____ inches</p> <p>12 Water Observations:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Clear <input checked="" type="checkbox"/></td> <td style="width:50%;">Clear <input checked="" type="checkbox"/></td> </tr> <tr> <td>Turbid <input type="checkbox"/></td> <td>Turbid <input type="checkbox"/></td> </tr> <tr> <td>(Describe)</td> <td>(Describe)</td> </tr> <tr> <td>Color _____</td> <td>Color _____</td> </tr> <tr> <td>Odor _____</td> <td>Odor _____</td> </tr> <tr> <td>Turbidity _____</td> <td>Turbidity _____</td> </tr> <tr> <td>HNu _____</td> <td>HNu _____</td> </tr> </table> <p>Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 1 4 3</p> <p>Well casing Vol. (gallons) $0.16r^2l$ = _____ 9 7</p> <p>Saturated length of sand pack (ft.) (ls) _____ 1 2 0</p> <p>Length of water column (ft.) (l) _____ 1 5 0 8</p> <p>R = Radius of borehole (in.) r = Well radius (in.)</p> <p>Collect groundwater sample if drilling fluids were used and well is at solid waste facility:</p> <p>13 Total suspended solids (500 ml Unfiltered) _____ mg/l (BEFORE) _____ mg/l (AFTER)</p> <p>14. COD (250 ml Unfiltered Sulfuric) _____ mg/l (BEFORE) _____ mg/l (AFTER)</p>	Clear <input checked="" type="checkbox"/>	Clear <input checked="" type="checkbox"/>	Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>	(Describe)	(Describe)	Color _____	Color _____	Odor _____	Odor _____	Turbidity _____	Turbidity _____	HNu _____	HNu _____
Clear <input checked="" type="checkbox"/>	Clear <input checked="" type="checkbox"/>														
Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>														
(Describe)	(Describe)														
Color _____	Color _____														
Odor _____	Odor _____														
Turbidity _____	Turbidity _____														
HNu _____	HNu _____														

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
1052	30	6.60	700	12.5		Clear	None	0.19	2.2	
1100	50	6.90	685	12.6		Clear	None	--	2.19	
1115	100	7.20	588	12.5		Clear	None	0.10	2.15	
1130	150	7.34	570	12.5		Clear	None	0.10	2.15	
1144	200	7.40	570	12.5		Clear	None	0.02	2.1	
1200	240	7.54	574	12.5		Clear	None	0.02	2.13	

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill
Location DuPage County
Developed By DAP/ACC

Well No. G121
Project No. 3920.0041
Checked By _____

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed ☐
surged with bailer and pumped ☐
surged with block and bailed ☐
surged with block and pumped ☐
surged with block, bailed and pumped ☐
compressed air ☐
bailed only ☐
pumped only ☒
pumped slowly ☐
Other Surged with Pump ☐

3. Time spent developing well 2 0 min.

Total well depth (FOG) (GS) 2 0 0 ft.
(From well construction summary)

Measured well depth (Before) 2 0 6 ft.

Measured well depth (After) 2 0 8 ft.

5. Inside diameter of well 4 0 0 in.

6. Volume of water in filter pack and well casing 1 6 4 gal.

7. Volume of water removed from well 1 1 0 0 gal.

Relative recovery rate _____ ft. per. _____ min.

Volume of water added (if any) None gal.

9. Source of water added None

	Before Development	After Development
10 Depth to Water (from top of well casing)	a. <u>1</u> <u>1</u> <u>6</u> <u>2</u> ft.	<u>1</u> <u>1</u> <u>6</u> <u>5</u> ft.
Date:	b. <u>10</u> / <u>23</u> / <u>96</u> mm dd yy <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.	<u>10</u> / <u>25</u> / <u>96</u> mm dd yy <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.
Time:	c. <u>12</u> : <u>30</u> <input checked="" type="checkbox"/> p.m.	<u>11</u> : <u>00</u> <input type="checkbox"/> p.m.
11 Sediment in well bottom:	_____ inches	_____ inches
12 Water Observations:	Clear <input type="checkbox"/> Turbid <input checked="" type="checkbox"/> (Describe) <u>Black/Gray</u> Septic _____ Turbid _____ HNu _____	Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) <u>Clear</u> Slight Septic _____ None _____

Filter Pack Vol. (gallons) $0.057(R^2 - r^2)l_s$ = 1 0 7

Well casing Vol. (gallons) $0.16r^2l$ = 5 7

Saturated length of sand pack (ft.) (ls) 9 0

Length of water column (ft.) (l) 8 9 8

R = Radius of borehole (in.) r = Well radius (in.)
Collect groundwater sample if drilling fluids were used and well is at solid waste facility:

13 Total suspended solids (500 ml Unfiltered)	_____ mg/l	_____ mg/l
14. COD (250 ml Unfiltered Sulfuric)	_____ mg/l (BEFORE)	_____ mg/l (AFTER)

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
940	25	12.4	550	13.5		Lt. Gray	Septic	33.50	1.61	200 NTU for
945	40	12.4	545	13.7		Lt. Gray	Septic	18.80	1.64	Turbidity
948	70	12.5	545	13.8		Lt. Gray	Septic	8.90	1.69	200 NTU for
952	90	12.6	545	14.0		Clear	Sl. Septic	8.90	1.63	Turbidity
957	110	12.6	545	14.0		Clear	Sl. Septic	8.90	1.60	

Project Name	Blackwell Landfill
Location	DuPage County
Developed By	DAP/ACC

Well No. G122
Project No. 3920.0041
Checked By _____

J:\3920\Gint\G122-DEV.xls

Developed By DAP/ACC

Checked By

[illegible]

Checked By _____

J:\3920\Gint\G126-DEV.xls

**MONTGOMERY
WATSON**

MONITORING WELL DEVELOPMENT SUMMARY

 Project Name Blackwell Landfill

 Well No. G127

 Location DuPage County

 Project No. 3920.0041

 Developed By DAP/ACC

Checked By _____

 1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

- surged with bailer and bailed ☐
 surged with bailer and pumped ☐
 surged with block and bailed ☐
 surged with block and pumped ☐
 surged with block, bailed and pumped ☐
 compressed air ☐
 bailed only ☐
 pumped only ☒
 pumped slowly ☐
 Other _____ ☐

3. Time spent developing well _____ 2 4 min.

 4. Total well depth (TOC) (GS) _____ 1 9 . 0 ft.
 (From well construction summary)

Measured well depth (Before) _____ 2 0 . 9 ft.

Measured well depth (After) _____ 2 0 . 9 ft.

5. Inside diameter of well _____ 4 . 0 0 in.

6. Volume of water in filter pack and well casing _____ 1 1 . 5 gal.

7. Volume of water removed from well _____ 7 0 . 0 gal.

Relative recovery rate _____ ft. per. _____ min.

 8. Volume of water added (if any) None _____ gal.

 9. Source of water added None

 10 Depth to Water
 (from top of
 well casing)

Date:

Time:

 11 Sediment in well
 bottom:

12 Water Observations:

Color

Odor

Turbidity

HNu

Before Development

After Development

a. _____ 1 4 . 6 0 ft.

 b. 10 / 23 / 96
 mm dd yy

 c. 12 : 00 ☐ p.m.

 Clear ☒

 Turbid ☐

(Describe)

Clear

None

Clear

N/A

_____ 1 4 . 6 0

10 / 25 / 96
 mm dd yy

11 : 30 ☐ p.m.

 Clear ☒

 Turbid ☐

(Describe)

Clear

None

Clear

N/A

 Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 7 . 5

 Well casing Vol. (gallons) $0.16r^2l$ = _____ 4 . 0

Saturated length of sand pack (ft.) (ls) _____ 6 . 3

Length of water column (ft.) (l) _____ 6 . 3

R = Radius of borehole (in.) r = Well radius (in.)

 Collect groundwater sample if drilling fluids were used and well is
 at solid waste facility:

 13 Total suspended solids
 (500 ml Unfiltered)

_____ mg/l

_____ mg/l

 14. COD
 (250 ml Unfiltered Sulfuric)

_____ mg/l

_____ mg/l

(BEFORE)

(AFTER)

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
11:00	10	Not Working		13.4		Clear/Lt Yellow	None	24.0	1.80	200 NTU Sale
11:04	20	Not Working		13.4		Clear/Lt Yellow	None	7.4	1.86	for Turbidity
11:08	30	Not Working		13.1		Clear/Lt Yellow	None	8.0	1.80	
11:12	40	Not Working		13.1		Clear	None	6.2	1.80	
11:16	50	Not Working		13.1		Clear	None	3.2	1.65	
11:20	60	Not Working		13.1		Clear	None	2.8	1.65	
11:24	70	Not Working		13.1		Clear	None	2.8	1.60	

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill
Location DuPage County
Developed By DAP/ACC

Well No. G128D
Project No. 3920.0041
Checked By _____

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed ☐
surged with bailer and pumped ☐
surged with block and bailed ☐
surged with block and pumped ☐
surged with block, bailed and pumped ☐
compressed air ☐
bailed only ☐
pumped only ☒
pumped slowly ☐
Other _____ ☐

3. Time spent developing well _____ 7 0 min.

4. Total well depth (TOC) (GS) _____ 5 4 . 5 ft.
(From well construction summary)

Measured well depth (Before) _____ 5 6 . 4 ft.
Measured well depth (After) _____ 5 6 . 4 ft.

5. Inside diameter of well _____ 4 . 0 0 in.

6. Volume of water in filter pack and well casing _____ 4 0 . 6 gal.

7. Volume of water removed from well _____ 2 4 0 . 0 gal.

Relative recovery rate _____ ft. per. _____ min.

8. Volume of water added (if any) None _____ gal.

Source of water added None

	Before Development	After Development
10 Depth to Water (from top of well casing)	a. _____ 1 5 . 4 9 ft.	_____ 1 5 . 4 9 ft.
Date:	b. <u>10 / 23 / 96</u> mm dd yy <input checked="" type="checkbox"/> a.m. <input type="checkbox"/> p.m.	<u>10 / 24 / 96</u> mm dd yy <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.
Time:	c. <u>10 : 00</u> <input type="checkbox"/> p.m.	<u>4 : 00</u> <input checked="" type="checkbox"/> p.m.
11 Sediment in well bottom:	_____ - . _____ inches	_____ - . _____ inches
12 Water Observations:	Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) Clear White None Cloudy N/A	Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) Clear Light Gray None Clear N/A

Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 4 . 4

Well casing Vol. (gallons) $0.16r^2l$ = _____ 2 6 . 2

Saturated length of sand pack (ft.) (ls) _____ 1 2 . 0

Length of water column (ft.) (l) _____ 4 0 . 9

R = Radius of borehole (in.) r = Well radius (in.)

Collect groundwater sample if drilling fluids were used and well is at solid waste facility:

13 Total suspended solids (500 ml Unfiltered)	_____ mg/l	_____ mg/l
14. COD (250 ml Unfiltered Sulfuric)	_____ mg/l	_____ mg/l
	(BEFORE)	(AFTER)

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
14:58	40	7.71	698	12.7		White Cloudy	None	159.5	2.10	200 NTU Sale
15:10	80	7.60	740	12.8		White Cloudy	None	128.6	2.10	for Turbidity
15:22	120	8.40	735	12.4		Clear Lt. Gray	None	37.5	2.06	
15:34	160	8.70	727	12.4		Clear Lt. Gray	None	25.4	2.05	
15:46	200	8.76	725	12.4		Clear Lt. Gray	None	12.0	2.07	
16:00	240	8.76	730	12.4		Clear Lt. Gray	None	10.1	2.04	

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill

Well No. G129

Location DuPage County

Project No. 3920.0041

Developed By DAP/ACC

Checked By _____

<p>1. Can this well be purged dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/></p> <p>surged with bailer and pumped <input type="checkbox"/></p> <p>surged with block and bailed <input type="checkbox"/></p> <p>surged with block and pumped <input type="checkbox"/></p> <p>surged with block, bailed and pumped <input type="checkbox"/></p> <p>compressed air <input type="checkbox"/></p> <p>bailed only <input type="checkbox"/></p> <p>pumped only <input checked="" type="checkbox"/></p> <p>pumped slowly <input type="checkbox"/></p> <p>Other _____ <input type="checkbox"/></p> <p>3. Time spent developing well _____ 3 0 min.</p> <p>4. Total well depth (TOC) (GS) _____ 1 7.5 ft.</p> <p>From well construction summary)</p> <p>Measured well depth (Before) _____ 1 9.2 ft.</p> <p>Measured well depth (After) _____ 1 9.2 ft.</p> <p>5. Inside diameter of well _____ 4.0 0 in.</p> <p>6. Volume of water in filter pack and well casing _____ 1 8.4 gal.</p> <p>7. Volume of water removed from well _____ 1 2 0.0 gal.</p> <p>Relative recovery rate _____ ft. per. _____ min.</p> <p>8. Volume of water added (if any) _____ None _____ gal.</p> <p>Source of water added _____ None _____</p>	<p>10 Depth to Water (from top of well casing)</p> <p>a. _____ 9.9 0 ft.</p> <p>b. <u>10 / 23 / 96</u> mm dd yy Date: _____ Time: _____ c. <u>2 : 00</u> <input checked="" type="checkbox"/> p.m.</p> <p>11 Sediment in well bottom: _____ inches</p> <p>12 Water Observations:</p> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Clear <input type="checkbox"/></td> <td>Clear <input type="checkbox"/></td> </tr> <tr> <td>Turbid <input type="checkbox"/></td> <td>Turbid <input type="checkbox"/></td> </tr> <tr> <td>(Describe)</td> <td>(Describe)</td> </tr> <tr> <td>Rusty _____</td> <td>Slight Rust _____</td> </tr> <tr> <td>Musty _____</td> <td>None _____</td> </tr> <tr> <td>Turbidity _____</td> <td>Clear _____</td> </tr> <tr> <td>HNu _____</td> <td>N/A _____</td> </tr> </table> <p>Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 1 2.0</p> <p>Well casing Vol. (gallons) $0.16r^2l$ = _____ 6.4</p> <p>Saturated length of sand pack (ft.) (ls) _____ 1 0.2</p> <p>Length of water column (ft.) (l) _____ 1 0.2</p> <p>R = Radius of borehole (in.) r = Well radius (in.)</p> <p>Collect groundwater sample if drilling fluids were used and well is at solid waste facility:</p> <p>13 Total suspended solids (500 ml Unfiltered) _____ mg/l _____ mg/l</p> <p>14. COD (250 ml Unfiltered Sulfuric) _____ mg/l _____ mg/l (BEFORE) (AFTER)</p>	Clear <input type="checkbox"/>	Clear <input type="checkbox"/>	Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>	(Describe)	(Describe)	Rusty _____	Slight Rust _____	Musty _____	None _____	Turbidity _____	Clear _____	HNu _____	N/A _____
Clear <input type="checkbox"/>	Clear <input type="checkbox"/>														
Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>														
(Describe)	(Describe)														
Rusty _____	Slight Rust _____														
Musty _____	None _____														
Turbidity _____	Clear _____														
HNu _____	N/A _____														

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
9:40	20	8.90	800	12.2		Rust	Musty	To High	3.40	200 NTU Sale
9:45	40	8.40	800	12.1		Rust	Musty	to Read	3.35	for Turbidity
9:50	60	7.79	805	12.3		Sl. Rust	None	104.0	2.89	
9:55	80	7.52	800	12.3		Sl. Rust	None	75.0	2.86	
10:00	100	7.36	800	12.3		Sl. Rust	None	60.0	2.86	
10:50	120	7.35	800	12.3		Sl. Rust	None	56.0	2.86	

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill Well No. G133S
 Location DuPage County Project No. 3920.0041
 Developed By DAP/ACC Checked By _____

<p>1. Can this well be purged dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/></p> <p>surged with bailer and pumped <input type="checkbox"/></p> <p>surged with block and bailed <input type="checkbox"/></p> <p>surged with block and pumped <input type="checkbox"/></p> <p>surged with block, bailed and pumped <input type="checkbox"/></p> <p>compressed air <input type="checkbox"/></p> <p>bailed only <input type="checkbox"/></p> <p>pumped only <input checked="" type="checkbox"/></p> <p>pumped slowly <input type="checkbox"/></p> <p>Other _____ <input type="checkbox"/></p> <p>3. Time spent developing well _____ 1 5 0 min.</p> <p>4. Total well depth (TOC) (GS) _____ 2 1 0 ft. (From well construction summary)</p> <p>Measured well depth (Before) _____ 2 3 0 ft.</p> <p>Measured well depth (After) _____ 2 3 0 ft.</p> <p>5. Inside diameter of well _____ 4 0 0 in.</p> <p>6. Volume of water in filter pack and well casing _____ 1 3 3 gal.</p> <p>7. Volume of water removed from well _____ 7 5 0 gal.</p> <p>Relative recovery rate _____ ft. per. _____ min.</p> <p>8. Volume of water added (if any) <u>None</u> _____ gal.</p> <p>Source of water added <u>None</u> _____</p>	<p>10 Depth to Water (from top of well casing)</p> <p>Date: _____</p> <p>Time: _____</p> <p>11 Sediment in well bottom: _____ inches</p> <p>12 Water Observations:</p> <p>Color _____</p> <p>Odor _____</p> <p>Turbidity _____</p> <p>HNu _____</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Before Development</th> <th style="width:50%;">After Development</th> </tr> </thead> <tbody> <tr> <td>a. _____ 1 5 7 4 ft.</td> <td>_____ 1 5 7 4 ft.</td> </tr> <tr> <td>b. <u>10 / 23 / 96</u> mm dd yy</td> <td><u>10 / 28 / 96</u> mm dd yy</td> </tr> <tr> <td>_____ a.m.</td> <td>_____ a.m.</td> </tr> <tr> <td>c. <u>9 : 45</u> _____ p.m.</td> <td><u>2 : 30</u> _____ p.m.</td> </tr> <tr> <td>Clear <input type="checkbox"/></td> <td>Clear <input checked="" type="checkbox"/></td> </tr> <tr> <td>Turbid <input type="checkbox"/></td> <td>Turbid <input type="checkbox"/></td> </tr> <tr> <td>(Describe) Lt Gray Brown</td> <td>(Describe) Clear</td> </tr> <tr> <td>None</td> <td>None</td> </tr> <tr> <td>Moderate</td> <td>None</td> </tr> <tr> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p>Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 8 7</p> <p>Well casing Vol. (gallons) $0.16r^2l$ = _____ 4 6</p> <p>Saturated length of sand pack (ft.) (ls) _____ 7 2 6</p> <p>Length of water column (ft.) (l) _____ 7 2 6</p> <p>R = Radius of borehole (in.) r = Well radius (in.)</p> <p>Collect groundwater sample if drilling fluids were used and well is at solid waste facility:</p> <p>13 Total suspended solids (500 ml Unfiltered) _____ mg/l</p> <p>14. COD (250 ml Unfiltered Sulfuric) _____ mg/l</p>	Before Development	After Development	a. _____ 1 5 7 4 ft.	_____ 1 5 7 4 ft.	b. <u>10 / 23 / 96</u> mm dd yy	<u>10 / 28 / 96</u> mm dd yy	_____ a.m.	_____ a.m.	c. <u>9 : 45</u> _____ p.m.	<u>2 : 30</u> _____ p.m.	Clear <input type="checkbox"/>	Clear <input checked="" type="checkbox"/>	Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>	(Describe) Lt Gray Brown	(Describe) Clear	None	None	Moderate	None	N/A	N/A
Before Development	After Development																							
a. _____ 1 5 7 4 ft.	_____ 1 5 7 4 ft.																							
b. <u>10 / 23 / 96</u> mm dd yy	<u>10 / 28 / 96</u> mm dd yy																							
_____ a.m.	_____ a.m.																							
c. <u>9 : 45</u> _____ p.m.	<u>2 : 30</u> _____ p.m.																							
Clear <input type="checkbox"/>	Clear <input checked="" type="checkbox"/>																							
Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>																							
(Describe) Lt Gray Brown	(Describe) Clear																							
None	None																							
Moderate	None																							
N/A	N/A																							

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
13:30	15	7.53	1050	13.2		Lt Gray Brown	None	Mod. Turb.	1.78	
13:33	30	7.22	1070	13.0		Clear Gray	None	Low Turb.	1.74	
13:36	40	7.13	1075	13.0		Clear Gray	None	Low Turb.	1.57	
13:39	60	7.25	1072	13.0		Clear Gray	None	Week to Cle	1.55	
13:42	75	7.10	1080	12.9		Clear	None	Week to Cle	1.50	

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill

Location DuPage County

Developed By DAP/ACC

Well No. G133D

Project No. 3920.0041

Checked By _____

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

- surged with bailer and bailed ☐
 surged with bailer and pumped ☐
 surged with block and bailed ☐
 surged with block and pumped ☐
 surged with block, bailed and pumped ☐
 compressed air ☐
 bailed only ☐
 pumped only ☒
 pumped slowly ☐
 Other Surged with Pump ☒

3. Time spent developing well 6 0 0 min.

4. Total well depth (TOC) (GS) 5 3 0 ft.
From well construction summary)

Measured well depth (Before) 5 4 0 ft.

Measured well depth (After) 5 4 1 ft.

5. Inside diameter of well 4 0 0 in.

6. Volume of water in filter pack and well casing 3 8 5 gal.

7. Volume of water removed from well 2 1 0 0 gal.

Relative recovery rate _____ ft. per. _____ min.

8. Volume of water added (if any) None gal.

Source of water added None

10 Depth to Water
(from top of
well casing)

Date:

Time:

11 Sediment in well
bottom:

12 Water Observations:

Color

Odor

Turbidity

HNu

Before Development

a. 1 6 2 0 ft.

b. 10 / 23 / 96
mm dd yy

☒ a.m. ☐ p.m.

c. 9 : 40 ☐ p.m.

After Development

1 6 2 0 ft.

10 / 28 / 96
mm dd yy

☐ a.m. ☒ p.m.

2 : 50 ☒ p.m.

1 2 inches

0 inches

Clear ☐

Turbid ☐

(Describe)

White/Gray

None

Turbid

N/A

Clear ☐

Turbid ☐

(Describe)

Clear

None

None

N/A

Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = 1 4 3

Well casing Vol. (gallons) $0.16r^2l$ = 2 4 2

Saturated length of sand pack (ft.) (ls) 1 2 0

Length of water column (ft.) (l) 3 7 8

R = Radius of borehole (in.) r = Well radius (in.)

Collect groundwater sample if drilling fluids were used and well is
at solid waste facility:

13 Total suspended solids
(500 ml Unfiltered)

_____ mg/l

14. COD
(250 ml Unfiltered Sulfuric)

_____ mg/l

(BEFORE)

(AFTER)

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Turb.	D.O.	Comment
14:00	40	--	--	--		Gray	None	Turbid		
14:10	80	7.68	875	13.0		Clear	None	Clear	0.86	
14:20	120	7.10	888	12.3		Clear	None	Clear	0.78	
14:30	160	7.10	875	12.2		Clear	None	Clear	0.77	
14:40	190	7.00	875	12.0		Clear	None	Clear	0.70	
14:50	210	7.00	875	12.0		Clear	None	Clear	0.70	

Project Name	Blackwell Landfill	Well No.	G136
Location	DuPage County	Project No.	3920.0041
Developed By	DAP/ACC	Checked By	

1. Can this well be purged dry?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10 Depth to Water (from top of well casing)	Before Development	After Development
2. Well development method		Date:	a. <u>1</u> <u>7</u> <u>4</u> <u>2</u> ft.	<u>9</u> <u>3</u> <u>0</u> <u>0</u> ft.
surged with bailer and bailed	<input type="checkbox"/>		b. <u>10</u> / <u>23</u> / <u>96</u>	<u>10</u> / <u>29</u> / <u>96</u>
surged with bailer and pumped	<input type="checkbox"/>		mm dd yy	mm dd yy
surged with block and bailed	<input type="checkbox"/>		<input type="checkbox"/> a.m.	<input checked="" type="checkbox"/> a.m.
surged with block and pumped	<input type="checkbox"/>	Time:	c. <u>2</u> : <u>30</u> <input checked="" type="checkbox"/> p.m.	<u>8</u> : <u>35</u> <input type="checkbox"/> p.m.
surged with block, bailed and pumped	<input type="checkbox"/>	11 Sediment in well bottom:	<u> </u> inches	<u> </u> inches
compressed air	<input type="checkbox"/>	12 Water Observations:	Clear <input type="checkbox"/>	Clear <input type="checkbox"/>
bailed only	<input type="checkbox"/>	Color	Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>
pumped only	<input checked="" type="checkbox"/>	Odor	(Describe)	(Describe)
pumped slowly	<input type="checkbox"/>	Sl. Cloudy	Sl. Cloudy	Sl. Cloudy
Other	<input type="checkbox"/>	None	None	None
		Turbidity	Slight	Slight
		HNu	N/A	N/A
3. Time spent developing well	<u> </u> <u>1</u> <u>8</u> min.	Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$	= <u> </u> <u>8</u> <u>2</u>	
4. Total well depth (TOC) (GS)	<u>1</u> <u>0</u> <u>1</u> <u>0</u> ft.	Well casing Vol. (gallons) $0.16r^2l$	= <u> </u> <u>5</u> <u>4</u> <u>6</u>	
(From well construction summary)		Saturated length of sand pack (ft.) (ls)	<u> </u> <u>1</u> <u>2</u> <u>0</u>	
Measured well depth (Before)	<u>1</u> <u>0</u> <u>2</u> <u>8</u> ft.	Length of water column (ft.) (l)	<u> </u> <u>8</u> <u>5</u> <u>4</u>	
Measured well depth (After)	<u>1</u> <u>0</u> <u>2</u> <u>8</u> ft.	R = Radius of borehole (in.) r = Well radius (in.)		
5. Inside diameter of well	<u> </u> <u>4</u> <u>0</u> <u>0</u> in.	Collect groundwater sample if drilling fluids were used and well is at solid waste facility:		
6. Volume of water in filter pack and well casing	<u> </u> <u>6</u> <u>2</u> <u>8</u> gal.	13 Total suspended solids (500 ml Unfiltered)	<u> </u> mg/l	<u> </u> mg/l
7. Volume of water removed from well	<u> </u> <u>8</u> <u>2</u> <u>0</u> gal.	14. COD (250 ml Unfiltered Sulfuric)	<u> </u> mg/l	<u> </u> mg/l
Relative recovery rate	<u>1/10</u> of ft. per. <u>20</u> sec.		(BEFORE)	(AFTER)
8. Volume of water added (if any)	<u> </u> <u>None</u> <u> </u> gal.			
Source of water added	<u> </u> <u>None</u>			

[illegible]

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill
Location DuPage County
Developed By DAP/ACC

Well No. G138
Project No. 3920.0041
Checked By _____

<p>1. Can this well be purged dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/></p> <p>surged with bailer and pumped <input type="checkbox"/></p> <p>surged with block and bailed <input type="checkbox"/></p> <p>surged with block and pumped <input type="checkbox"/></p> <p>surged with block, bailed and pumped <input type="checkbox"/></p> <p>compressed air <input type="checkbox"/></p> <p>bailed only <input type="checkbox"/></p> <p>pumped only <input checked="" type="checkbox"/></p> <p>pumped slowly <input type="checkbox"/></p> <p>Other _____ <input type="checkbox"/></p> <p>3. Time spent developing well _____ 3 5 min.</p> <p>4. Total well depth (TOC) (GS) _____ 5 4 . 0 ft. from well construction summary)</p> <p>Measured well depth (Before) _____ 5 6 . 2 ft.</p> <p>Measured well depth (After) _____ 5 6 . 2 ft.</p> <p>5. Inside diameter of well _____ 4 . 0 0 in.</p> <p>6. Volume of water in filter pack and well casing _____ 3 9 . 5 gal.</p> <p>7. Volume of water removed from well _____ 1 7 5 . 0 gal.</p> <p>Relative recovery rate _____ ft. per. _____</p> <p>8. Volume of water added (if any) _____ gal.</p> <p>Source of water added _____</p>	<p>10 Depth to Water (from top of well casing)</p> <p>Date: _____</p> <p>Time: _____</p> <p>11 Sediment in well bottom: _____ inches</p> <p>12 Water Observations:</p> <p>Color _____</p> <p>Odor _____</p> <p>Turbidity _____</p> <p>HNu _____</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Before Development</th> <th style="text-align: left;">After Development</th> </tr> </thead> <tbody> <tr> <td>a. _____ 1 6 . 8 3 ft.</td> <td>_____ 1 6 . 8 0 ft.</td> </tr> <tr> <td>b. <u>10 / 23 / 96</u> mm dd yy</td> <td><u>10 / 29 / 96</u> mm dd yy</td> </tr> <tr> <td>c. _____ : _____ <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.</td> <td>_____ : _____ <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.</td> </tr> <tr> <td>Clear <input type="checkbox"/></td> <td>Clear <input checked="" type="checkbox"/></td> </tr> <tr> <td>Turbid (Describe) <input type="checkbox"/></td> <td>Turbid (Describe) <input type="checkbox"/></td> </tr> <tr> <td>Sl. Cloudy _____</td> <td>Clear _____</td> </tr> <tr> <td>None _____</td> <td>None _____</td> </tr> <tr> <td>Cloudy _____</td> <td>Clear _____</td> </tr> <tr> <td>N/A _____</td> <td>N/A _____</td> </tr> </tbody> </table> <p>Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 1 4 . 3</p> <p>Well casing Vol. (gallons) $0.16r^2l$ = _____ 2 5 . 2</p> <p>Saturated length of sand pack (ft.) (ls) _____ 1 2 . 0</p> <p>Length of water column (ft.) (l) _____ 3 9 . 4</p> <p>R = Radius of borehole (in.) r = Well radius (in.)</p> <p>Collect groundwater sample if drilling fluids were used and well is at solid waste facility:</p> <p>13 Total suspended solids (500 ml Unfiltered) _____ mg/l _____ mg/l</p> <p>14. COD (250 ml Unfiltered Sulfuric) _____ mg/l _____ mg/l (BEFORE) (AFTER)</p>	Before Development	After Development	a. _____ 1 6 . 8 3 ft.	_____ 1 6 . 8 0 ft.	b. <u>10 / 23 / 96</u> mm dd yy	<u>10 / 29 / 96</u> mm dd yy	c. _____ : _____ <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	_____ : _____ <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Clear <input type="checkbox"/>	Clear <input checked="" type="checkbox"/>	Turbid (Describe) <input type="checkbox"/>	Turbid (Describe) <input type="checkbox"/>	Sl. Cloudy _____	Clear _____	None _____	None _____	Cloudy _____	Clear _____	N/A _____	N/A _____
Before Development	After Development																					
a. _____ 1 6 . 8 3 ft.	_____ 1 6 . 8 0 ft.																					
b. <u>10 / 23 / 96</u> mm dd yy	<u>10 / 29 / 96</u> mm dd yy																					
c. _____ : _____ <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	_____ : _____ <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.																					
Clear <input type="checkbox"/>	Clear <input checked="" type="checkbox"/>																					
Turbid (Describe) <input type="checkbox"/>	Turbid (Describe) <input type="checkbox"/>																					
Sl. Cloudy _____	Clear _____																					
None _____	None _____																					
Cloudy _____	Clear _____																					
N/A _____	N/A _____																					

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
11:32	35	7.45	1015	11.6		Sl. Cloudy	None	43.50	3.43	200 NTU Scale
11:40	70	7.08	1033	11.4		Clear	None	8.57	3.11	201 NTU Scale
11:48	105	7.10	1039	11.2		Clear	None	3.92	2.91	202 NTU Scale
11:56	140	7.05	1026	11.2		Clear	None	2.65	2.62	203 NTU Scale
12:04	175	7.05	1025	11.2		Clear	None	2.46	2.60	204 NTU Scale

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill Well No. G139
 Location DuPage County Project No. 3920.0041
 Developed By DAP/ACC Checked By _____

<p>1. Can this well be purged dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/></p> <p>surged with bailer and pumped <input type="checkbox"/></p> <p>surged with block and bailed <input type="checkbox"/></p> <p>surged with block and pumped <input type="checkbox"/></p> <p>surged with block, bailed and pumped <input type="checkbox"/></p> <p>compressed air <input type="checkbox"/></p> <p>bailed only <input type="checkbox"/></p> <p>pumped only <input checked="" type="checkbox"/></p> <p>pumped slowly <input type="checkbox"/></p> <p>Other _____ <input type="checkbox"/></p> <p>3. Time spent developing well _____ 5 0 min.</p> <p>4. Total well depth (TOC) (GS) _____ 5 5 5 ft. (From well construction summary)</p> <p>Measured well depth (Before) _____ 5 7 5 ft.</p> <p>Measured well depth (After) _____ 5 7 5 ft.</p> <p>5. Inside diameter of well _____ 4 0 0 in.</p> <p>6. Volume of water in filter pack and well casing _____ 4 4 6 gal.</p> <p>7. Volume of water removed from well _____ 2 2 5 0 gal.</p> <p>Relative recovery rate _____ ft. per. _____</p> <p>8. Volume of water added (if any) _____ gal.</p> <p>Source of water added _____</p>	<p>10 Depth to Water (from top of well casing)</p> <p>a. _____ 1 0 1 5 ft.</p> <p>b. _____ 10 / 23 / 96 mm dd yy <input type="checkbox"/> a.m. <input checked="" type="checkbox"/> p.m.</p> <p>c. _____ 2 : 00 _____ 10 : 30 _____ mm dd yy mm dd yy</p> <p>Date: _____</p> <p>Time: _____</p> <p>11 Sediment in well bottom: _____ inches</p> <p>12 Water Observations:</p> <table border="0" style="width:100%;"> <tr> <td style="width:50%;"> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) _____ Color _____ Odor _____ Turbidity _____ HNu _____ </td> <td style="width:50%;"> Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) _____ Color _____ Odor _____ Turbidity _____ HNu _____ </td> </tr> </table> <p>Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 1 4 3</p> <p>Well casing Vol. (gallons) $0.16r^2l$ = _____ 3 0 3</p> <p>Saturated length of sand pack (ft.) (ls) _____ 1 2 0</p> <p>Length of water column (ft.) (l) _____ 4 7 4</p> <p>R = Radius of borehole (in.) r = Well radius (in.)</p> <p>Collect groundwater sample if drilling fluids were used and well is at solid waste facility:</p> <table border="0" style="width:100%;"> <tr> <td style="width:50%;"> 13 Total suspended solids (500 ml Unfiltered) _____ mg/l </td> <td style="width:50%;"> _____ mg/l </td> </tr> <tr> <td> 14. COD (250 ml Unfiltered Sulfuric) _____ mg/l </td> <td> _____ mg/l </td> </tr> </table> <p style="text-align: right;">(BEFORE) (AFTER)</p>	Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) _____ Color _____ Odor _____ Turbidity _____ HNu _____	Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) _____ Color _____ Odor _____ Turbidity _____ HNu _____	13 Total suspended solids (500 ml Unfiltered) _____ mg/l	_____ mg/l	14. COD (250 ml Unfiltered Sulfuric) _____ mg/l	_____ mg/l
Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) _____ Color _____ Odor _____ Turbidity _____ HNu _____	Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> (Describe) _____ Color _____ Odor _____ Turbidity _____ HNu _____						
13 Total suspended solids (500 ml Unfiltered) _____ mg/l	_____ mg/l						
14. COD (250 ml Unfiltered Sulfuric) _____ mg/l	_____ mg/l						

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
10:40	45	7.68	710	11.3		Clear	None	22.50	5.96	200 NTU Scale
10:50	90	7.70	725	10.9		Clear	None	16.00	4.84	201 NTU Scale
11:00	135	7.62	722	10.8		Clear	None	6.70	4.60	202 NTU Scale
11:10	180	7.62	715	10.8		Clear	None	4.38	4.42	203 NTU Scale
11:20	200	7.55	717	10.8		Clear	None	3.98	4.40	204 NTU Scale

Checked By _____

[illegible]

MONTGOMERY WATSON



MONITORING WELL DEVELOPMENT SUMMARY

Project Name Blackwell Landfill Well No. G141D
 Location DuPage County Project No. 3920.0041
 Developed By DAP/ACC Checked By _____

<p>1. Can this well be purged dry? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>2. Well development method</p> <p>surged with bailer and bailed <input type="checkbox"/></p> <p>surged with bailer and pumped <input type="checkbox"/></p> <p>surged with block and bailed <input type="checkbox"/></p> <p>surged with block and pumped <input type="checkbox"/></p> <p>surged with block, bailed and pumped <input type="checkbox"/></p> <p>compressed air <input type="checkbox"/></p> <p>bailed only <input type="checkbox"/></p> <p>pumped only <input checked="" type="checkbox"/></p> <p>pumped slowly <input type="checkbox"/></p> <p>Other _____ <input type="checkbox"/></p> <p>3. Time spent developing well _____ 3 4 min.</p> <p>4. Total well depth (TOC) (GS) _____ ft. (From well construction summary)</p> <p>Measured well depth (Before) _____ 6 3 . 8 ft.</p> <p>Measured well depth (After) _____ 6 3 . 8 ft.</p> <p>5. Inside diameter of well _____ 2 . 0 0 in.</p> <p>6. Volume of water in filter pack and well casing _____ 1 6 . 0 gal.</p> <p>7. Volume of water removed from well _____ 8 5 . 0 gal.</p> <p>Relative recovery rate _____ ft. per. _____</p> <p>8. Volume of water added (if any) _____ gal.</p> <p>Source of water added _____</p>	<p>10 Depth to Water (from top of well casing)</p> <p>a. _____ 1 6 . 4 1 ft.</p> <p>Date: _____ 10 / 24 / 96 mm dd yy</p> <p>Time: _____ a.m. _____ p.m.</p> <p>11 Sediment in well bottom: _____ inches</p> <p>12 Water Observations:</p> <table style="width:100%;"> <tr> <td>Clear <input checked="" type="checkbox"/></td> <td>Clear <input checked="" type="checkbox"/></td> </tr> <tr> <td>Turbid <input type="checkbox"/></td> <td>Turbid <input type="checkbox"/></td> </tr> <tr> <td>(Describe) _____</td> <td>(Describe) _____</td> </tr> <tr> <td>Color _____</td> <td>Color _____</td> </tr> <tr> <td>Odor _____</td> <td>Odor _____</td> </tr> <tr> <td>Turbidity _____</td> <td>Turbidity _____</td> </tr> <tr> <td>HNu _____</td> <td>HNu _____</td> </tr> </table> <p>Filter Pack Vol. (gallons) $0.057(R^2 - r^2)ls$ = _____ 8 . 2</p> <p>Well casing Vol. (gallons) $0.16r^2l$ = _____ 7 . 7</p> <p>Saturated length of sand pack (ft.) (ls) _____ 1 2 . 0</p> <p>Length of water column (ft.) (l) _____ 4 7 . 3</p> <p>R = Radius of borehole (in.) r = Well radius (in.)</p> <p>Collect groundwater sample if drilling fluids were used and well is at solid waste facility:</p> <p>13 Total suspended solids (500 ml Unfiltered) _____ mg/l</p> <p>14. COD (250 ml Unfiltered Sulfuric) _____ mg/l</p> <p style="text-align: center;">(BEFORE) (AFTER)</p>	Clear <input checked="" type="checkbox"/>	Clear <input checked="" type="checkbox"/>	Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>	(Describe) _____	(Describe) _____	Color _____	Color _____	Odor _____	Odor _____	Turbidity _____	Turbidity _____	HNu _____	HNu _____
Clear <input checked="" type="checkbox"/>	Clear <input checked="" type="checkbox"/>														
Turbid <input type="checkbox"/>	Turbid <input type="checkbox"/>														
(Describe) _____	(Describe) _____														
Color _____	Color _____														
Odor _____	Odor _____														
Turbidity _____	Turbidity _____														
HNu _____	HNu _____														

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Meter Turb.	D.O.	Comment
1:22	20	7.50	680	12.5		Clear	None	1.48	1.20	
1:31	40	8.14	697	12.8		Clear	None	0.51	1.15	
1:37	55	8.26	692	12.5		Clear	None	0.44	1.10	
1:43	70	8.40	686	12.2		Clear	None	0.28	1.09	
1:49	85	8.44	684	12.2		Clear	None	0.19	1.14	

F

PROPOSED GROUNDWATER MONITORING
PLAN

F

PROPOSED GROUNDWATER MONITORING PLAN

QUARTERLY GROUNDWATER MONITORING

The objective of this activity is to detect changes in the chemical concentration of the groundwater in both the glacial aquifer and in the underlying bedrock aquifer in downgradient areas between the landfill and the Blackwell Forest Preserve's boundary during the period between remedial design and Record of Decision. Instructions for the collection of samples are located in Appendix A of the Field Sampling Plan for Pre-Design Investigation Activities, August 1996 (Vol. III of IV), and the attached Addendum (Groundwater Sampling and Testing SOP).

Description Of Response Action

The groundwater monitoring program for the site will consist of the following tasks:

<u>Task</u>	<u>Schedule for Implementation</u>
1. Implement quarterly monitoring	Upon approval of this Proposed Monitoring Plan
2. Recommend modifications to the monitoring program	Within the 30% Design Submittal
3. Implement O & M monitoring program	Upon receipt of the Record of Decision and Consent Decree or Unilateral Administrative Order

The tasks incorporate the requirements of the U.S. EPA's Scope of Work. The following sections provide the design and implementation plans for the quarterly monitoring program required in the U.S. EPA's Scope of Work. Upon approval of this Proposed Monitoring Plan, the quarterly monitoring program will be implemented. Changes to the monitoring program may be recommended in the 30% design submittal. These changes will be implemented as part of the long term O&M and monitoring program.

Purpose

The monitoring program will include field and laboratory testing of samples. Analytical results will be used to:

- Provide on-going characterization of groundwater quality downgradient of the site.
- Provide baseline groundwater data during the cap repair remediation, which may be utilized to estimate the length of time until groundwater standards are met through natural attenuation.
- Determine whether the reduction of contaminant loading from the cap repairs, in combination with natural attenuation and dilution, will allow for the standards of 35 IAC 620.410 to be achieved over time.
- To confirm that concentrations of groundwater contaminants do not exceed any MCL, an excess cancer risk greater than 10^{-6} , or Hazard Index greater than or equal to 1.0, whichever is more stringent, at the Blackwell Forest Preserve's downgradient boundary.

New Wells

No new wells are proposed at this time. Additional monitoring well installations may be recommended as a modification to the monitoring program within the 30% Design Report, if any data gaps are identified during the first round of quarterly monitoring.

Monitoring Program

Existing monitoring wells have been selected for the groundwater monitoring program for the site. The wells are divided into: 1) detection monitoring wells located between the landfill and the Blackwell Forest Preserve's boundary; 2) compliance monitoring wells located along the downgradient boundary of the Preserve, and 3) other monitoring wells or piezometers for water level measurements only. The monitoring program is further divided into wells which monitor the glacial outwash aquifer (Figure F1) and those which monitor the underlying bedrock aquifer (Figure F2). The definition of detection and compliance monitoring, and the rationale for the choice of monitoring wells, is described below:

Detection Monitoring Wells

Glacial Outwash Aquifer Wells

G107S
G117
G123
G126
G127
G129

Bedrock Wells

G128D
G135
G140D
G141D

Compliance Monitoring Wells

Glacial Outwash Aquifer Wells

G122
G133S

Bedrock Wells

G133D
G138
G139

Water Level Wells

Glacial Outwash Aquifer Wells

P2
P3
G114
G118S
G121
G130S

Bedrock Wells

G131D
G132
G134
G137

The detection monitoring wells listed above were chosen to monitor downgradient groundwater quality concentrations between the landfill waste boundary and the FPD property boundary. These wells were chosen as detection monitoring wells, because they are in the best locations, downgradient of the landfill, to assess any changes in groundwater quality relative to existing concentrations.

The compliance monitoring wells were chosen, because they are located closest to the FPD property boundary, downgradient of the landfill. These wells will be used to confirm that concentrations of groundwater contaminants in these boundary wells do not exceed any MCL, cancer risk greater than 10^{-6} , or Hazard Index greater than or equal to 1.0, whichever is more stringent.

The water level monitoring wells were chosen to provide additional water level data from that collected from the detection and compliance monitoring wells. As a network, these wells can be used to establish groundwater flow direction and velocity at the time of quarterly monitoring.

It is anticipated that one or more upgradient wells may be added to the monitoring program following assessment of the first round of quarterly monitoring. Any additions to the groundwater monitoring program will be proposed in the 30% design report.

Quality Control Sampling

Quality control samples will be collected, and will consist of sample duplicates, field blanks, and matrix spike/matrix spike duplicates (MS/MSD) samples, as described below.

Field Blanks (FB)

A laboratory prepared sample of reagent grade water will be routed through decontaminated sampling equipment to assess the effectiveness of decontamination procedures.

For Level IV water samples, one field blank will be prepared for each container type and size. Field blanks will be prepared according to the following schedule for each sampling activity:

- One field blank for every 10 or fewer samples of water collected; and
- For each sample period, a minimum of one blank for each group of parameters per sample matrix.

The field blank samples will be prepared using deionized water stored in polyethylene containers. For monitoring well samples, the water will be routed through the previously decontaminated sampling device before transfer to the container.

Trip Blanks (TB)

A water sample, prepared by the laboratory, will be transported to the site. The sample will remain unopened and be returned to the laboratory for analysis to evaluate QA/QC of sample handling procedures.

A trip blank for VOC analyses will be included in each sample cooler containing water matrix samples intended for VOC analysis. The trip blanks will consist of two 40-ml VOA vials filled with deionized water with a Milli-Q cleanup. It will be prepared in the office or laboratory, transported to the field and shipped with the other samples to the designated laboratory without being opened. It will be packaged using standard procedures as for other sample bottles.

Matrix Spike and Matrix Spike Duplicates (MS/MSD)

An additional sample volume collected in the field and sent to the laboratory for analysis. The results are used to evaluate the effect of the sample matrix on the digestion and measurement methodology. For water samples, one sample per group of 20 or fewer samples collected for VOC and SVOC analysis during each sampling activity will be selected for matrix spike/matrix spike duplicate (MS/MSD) analysis. For SVOCs, double the normal sample volume will be collected (i.e., four, 1-L bottles). For VOCs, triple the normal sample volume will be collected (i.e., six, 40 ml vials).

Sample Duplicates

A duplicate sample taken in the field and analyzed in the laboratory to evaluate the homogeneity of the sample medium and the precision of the laboratory. One duplicate sample will be collected for each increment of 10 or fewer samples collected for each matrix during each sampling period. A duplicate sample will consist of a sample obtained from the same sampling device as the original sample.

A summary of the investigative and QA/QC samples is presented in Table 1-1. of the QAPP for Pre-design Investigation Activities (Vol. IV or IV) (August 1996). The supplier of the contaminant free sample containers will be the I-Chem Company. The containers will be CLP Level 300 series bottles.

Sampling Method

Low flow sampling procedures will be used to obtain all groundwater samples. This sampling technique is described in the attached SOP (Addendum to the QAPP for the Pre-Design Investigation Activities, August 1996).

Groundwater Sampling Frequency

The groundwater monitoring program will consist of performance of field and laboratory testing of the samples collected from each of the wells listed above. The monitoring program will begin following approval of this monitoring program. Sampling will be performed on a quarterly basis. Additional parameters will be included on an annual frequency. Table 1-1 of the QAPP for Pre-Design Investigation Activities (August 1996) (Volume IV) provides a listing of the parameters and frequency of sampling.

The U.S. EPA SOW indicates that if quarterly groundwater monitoring over a period of eight quarters indicates that contaminant concentrations throughout the system of groundwater monitoring wells are not increasing, the FPD may petition the U.S. EPA to allow monitoring on a less frequent basis. The U.S. EPA Statement of Work also states that if additional information indicates that the groundwater monitoring program is inadequate, the U.S. EPA may require that additional groundwater monitoring wells be added to the program.

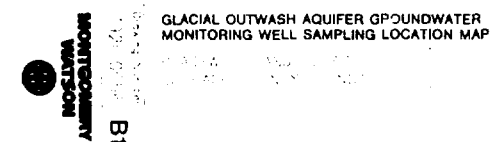
Sample Analysis

Groundwater samples collected will be analyzed in the field and the analytical laboratory, as appropriate, for the parameters specified in Table 1-1 of the QAPP for Pre-Design Investigation Activities (August 1996). Groundwater samples will be analyzed for volatile organic compounds on the Target Compound list (TCL), semi-volatile organic compounds on the TCL, and the full Target Analyte List (TAL) of metals. Indicator parameters include chloride, sulfate, and TDS. Field parameters to be measured and recorded for each monitoring well are groundwater elevation, pH, temperature, turbidity, specific conductance, redox potential, and dissolved oxygen.

Analyses will be in compliance with, and meet the reporting limits required by, the State of Illinois' Groundwater Quality Standards at 35 IAC 620, and any Maximum Contaminant Level (MCL) designated at 40 CFR Part.




If additional information indicates that the groundwater monitoring program is inadequate, the U.S. EPA may require additional field or laboratory analysis of additional parameters.

WGB/ndj/PJV
J:\1252\008\04\WP\RPT\99F_TEXT.DOC
1252008.0+09.0056-MD





LEGEND

-  **G-136** BEDROCK AQUIFER GROUNDWATER MONITORING WELL LOCATION AND NUMBER (FOR DETECTION MONITORING)
-  **G-139** BEDROCK AQUIFER GROUNDWATER MONITORING WELL LOCATION AND NUMBER (FOR COMPLIANCE MONITORING)
-  **G-131D** BEDROCK AQUIFER GROUNDWATER MONITORING WELL LOCATION AND NUMBER (FOR WATER LEVELS)

NOTE

BASE MAP DEVELOPED FROM WARZYN INC. DRAWING NO. 6072100-B47, "GROUNDWATER MONITORING WELL SAMPLING LOCATION MAP", DATED JULY 28, 1994.

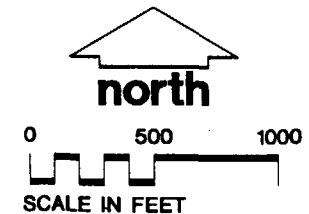


FIGURE F2

BEDROCK AQUIFER GROUNDWATER MONITORING WELL SAMPLING LOCATION MAP

BLACKWELL LANDFILL SITE
DU PAGE COUNTY, ILLINOIS

Drawing Number
3920.0056 **B2**

MONTGOMERY WATSON



Developed By TJK Drawn By LCL

Approved By *Tom Kowalski* Date 1-9-97

Reference 3920.0014-B4

Revisions

GROUNDWATER SAMPLING AND TESTING SOP

GROUNDWATER SAMPLING AND TESTING SOP

Subject: Groundwater Monitoring Well Sampling

Method: Low Flow Sampling with Submersible Pump

SCOPE AND APPLICATION

1. In wells in more permeable formations, complete evacuation of a well is not always possible or desirable. The U.S. EPA (1983) recommends collecting a sample when 95% of the purged water is coming from the formation. The USGS (1980) recommends purging until the temperature, pH and conductivity stabilize. This method may lead to excessive and unnecessary volumes being withdrawn and cause disposal problems.
2. Montgomery Watson purges wells to meet recommendations of the U.S. EPA. Montgomery Watson removes three to five well volumes, or the well is purged until the pH, temperature and conductivity stabilize (after a minimum of three volumes are removed). This should result in a sample that represents the in situ groundwater sample.
3. In addition to the volume of water purged from a well, the position of the pump (or bailer) intake when purging is an important factor to consider during well evacuation. The flow patterns established by the intake position will ultimately determine the position from which a sample, representative of in situ groundwater, can be collected. As stated by U.S. EPA (1983):

“When water is removed from the top of the water column standing in the well, water flow through the screen and up the well to the point of removal. In this manner the entire column of water in the well is exchanged during evacuation. If enough water is evacuated to account for any mixing between the stagnant water previously standing in the well and fresh formation water brought into the well, samples may subsequently be taken from any position in the well.

When water is removed from the screened portion of the well, a different pattern of flow is established in the well during evacuation. Until the drawdown stabilizes, water flows from the column of water above the screen as well as through the screen from the formation. However, after drawdown stabilizes, water located in the well above the screen is no longer removed and all evacuated water comes from the screened portion of the well. For this reason, samples may subsequently be taken only from the well screened portion of the well. However, in many cases, much less water must be evacuated from the well than if water was evacuated from the top of the well. Enough water must be pumped, however, to stabilize the drawdown in the well and to subsequently ensure adequate exchange of water standing in the screened portion of the well with formation water."

NOTES

1. Sample the least contaminated well first. (Sample in increasing order of contamination.) If the degree of contamination is unknown, sample upgradient wells first.
2. Minimize aeration of the sample during purging and sample collection. Changes in partial pressure and aeration may alter the sample's integrity by precipitating metals, volatilization of organics, etc.
3. **Do not** allow pump to "splash" into well. This will result in aeration of the sample.
4. Follow proper decontamination procedures. Specifics may vary when there is a project sampling plan.
5. **Do not** send a pump down a well very fast until you have determined the well is not "kinked". Otherwise, the pump may jam in the well.
6. Connect pumps to nylon rope using the bowline knot. Cinch knots may become untied.
7. Keep all samples on ice after sample collection.

I. PRE-FIELD CHECKLIST

A. Paperwork to take to the site

1. Completed monitoring well construction summary for the wells to be sampled
2. Monitoring well development summary forms
3. Health and Safety Plan

B. Equipment to take to the site

1. Field Notebook
2. Watch, or timing device
3. Electronic water level indicator
4. 5-gallon bucket
5. Plan for disposal of water (see Section II.H.)
6. Decontamination solutions and buckets
7. pH meter
8. Specific conductance meter
9. Turbidity meter
10. Pump (Grundfos, or equivalent), generator, extension cord (50 feet)
11. Polyethylene tubing, hose clamps
12. Graduated container
13. Hand tools (socket set, hammer)
14. Sample bottles (EPA540/R93/051/Dec/92) and preservatives (HCL and HNO₃)
15. Sample labels and tags
16. Well access (key)

17. Drums or poly tank for containing purge water
18. Cooler(s) with ice
19. Packing material (vermiculite, tape)
20. Chain of custody forms

II. LOW FLOW SAMPLING WITH SUBMERSIBLE PUMP

- A. Measure and record depth to water from top of the well casing with electronic water level indicator. Examine the water level indicator for evidence of sheen, oily surface or other immiscible fluids and record this information in the field log book.
- B. Measure and record total depth from top of well casing with electronic water level indicator.
- C. Refer to monitoring well construction summary for depth to top of the well screen. Attach new, clean polyethylene tubing to the Grundfos pump. (Teflon® tubing was considered for sampling purposes but not selected due to its excessive rigidity which makes the tubing difficult to attach to the pump and handle while raising and lowering the pump in the well. This material is more ideally suited and typically utilized for dedicated well sampling systems, including bladder pumps or Waterra inertial lift pumps). A rinsate blank will be collected from the pump and tubing prior to sampling. The Grundfos pump will be decontaminated upon arrival at the site and between each sampling location as specified in II.I.
- D. Lower the Grundfos pump so that the pump rests approximately one foot above the well screen.
- E. Begin purging the well at a rate of approximately 300 ml per minute. Confirm the purge rate by measuring the amount of water purged in one minute with a graduated measuring device, such as a bucket, or sample container. Observe the purge water for evidence of a sheen, oily surface or other immiscible fluids and record this information in the field log book.
- F. Purge the volume of water contained in the tubing (it is assumed for all wells, the length of tubing will be 100 feet; therefore, for 1/2-inch diameter tubing, the volume of water purged from all wells will be 1.0 gallons). After the initial purge of 1.0 gallons, field measurements for pH, specific conductance, temperature, and turbidity will be monitored. Measurements of pH, specific conductance, and temperature will be collected in-line or by inserting instrument

probes into a bypass stream of water from continuous pump discharge. The bypass stream will be directed into a sample container (250 ml poly jar) for parameter measurement. Turbidity measurements will be collected from the bypass stream into its own collection and measurement device.

- G. When pH, specific conductivity, temperature, and turbidity readings have stabilized for three consecutive readings within 10% of the previous readings, sample bottles can then be filled. Samples collected for volatile organic analyses shall be filled first. Samples shall be placed in a cooler and iced immediately after collection.
- H. Purge water will be contained by placing purge water into drums (steel or poly) at each well location, or by pumping into a poly holding tank which can be placed onto the back of a pickup truck. The purge water will be stored in the designated storage area. If the water is contained in the poly tank during purging, the tank will then be moved to the designated containment area and the water will be pumped into drums and staged for future disposal. Water will be carefully pumped into the drums with enough space left in the drums to allow for freezing of water without causing the drums to crack or leak.
- I. Upon completion of the sampling event, promptly remove the sampling pump from the well and decontaminate the pump by inserting the pump into a 5-gallon bucket prepared with a distilled water and Alconox solution, followed by a distilled water rinse. Water generated during decontamination will be collected and containerized in 55-gallon drums. The drums will then be sealed, labeled and stored in the off-site containment area for future disposal.

III. SAMPLE LABELING AND TAGGING

- A. Sample labels and tags are used in conjunction with chain-of-custody documents to ensure sample identification, preservation, and custody requirements are maintained. Each label and tag will be labeled with a sample identifier code as defined in the QAPP.
- B. Adhesive labels are used to identify all samples collected by Montgomery Watson personnel during field activities with the exception of samples collected for submittal to laboratories through the U.S. EPA Contract Laboratory Program (CLP) (federal lead investigation).
The adhesive label should be affixed to the sample container prior to sample collection. Condensation may form on containers after filling which would make it difficult to adhere labels.

U.S. EPA Sample Tags are used to identify all samples collected under the U.S. EPA Contract Laboratory Program (CLP). Tags are affixed to each to the bottles using a loop around the neck of the bottle. The information on the

sample tag is filled in completely, with the sample identifier code described above.

IV. SAMPLE COLLECTION AND PREPARATION

A. All sample containers received from the laboratory will meet the specifications and protocols of U.S. EPA guidance document EPA540/R-93/051/12-92.

B. Volatile Organic Compounds

1. Remove the plastic cap and Teflon® coated septum being careful not to contact potential contaminants. If vial and/or cap appears to be defective, discard and use a new vial. The vial should be opened for a minimum amount of time. Three (3) vials must be collected for each sample.
2. Carefully fill the vial with continuous low flow from the pump with water until meniscus (mound of water) forms on the top. Avoid agitating the sample as this may cause a loss of volatiles. Add four drops of 1+1 hydrochloric acid (HCL) to the sample for preservation. HCL preservation may be added to the vial either before or after sample collection.
3. Carefully replace the cap on the meniscus. This will force a small amount of water off the top. Check the vial for air bubbles by inverting vial and gently tapping the side of the vial. Bubbles will rise to the top, if present. If bubbles are present, discard the vial and start with a new one. Place samples into cooler with ice upon sample completion.

C. Semi-volatiles and PCBs

1. For sampling of semi-volatile organic compounds and PCBs, two 1-liter amber glass bottles for each parameter are to be filled to the shoulder. Sampling should continue to be performed at the low flow purge rate of 300 ml per minute.
2. No preservation is required for either semi-volatiles or PCBs. Therefore, upon completion of filling sampling bottles, immediately place the bottles in a cooler with ice.

D. Metals (Dissolved and Total Metals)

Unfiltered Metals (Total Metals)

1. Continue to purge well at 300 ml per minute. Fill 1-liter polyethylene container to the shoulder. Preserve with 3 ml, or until pH<2, of HNO₃. Place sample into cooler with ice.

Filtered Metals

1. While continuing to purge at 300 ml per minute, install a 0.45 micron filter to the discharge line of the sampling pump, making sure the arrows on the filter are pointing in the direction of sample flow. Filter the sample into the appropriate sample container (1-liter polyethylene).
2. Once the container has been filled, add 3.0 ml, or until pH<2, of 1:1 Nitric acid (HNO₃) per 1 liter of sample. Sample should be filtered and preserved as quickly as possible after collected, generally within 20 minutes of sample collection. Place sample into cooler with ice.

V. DOCUMENTATION

A. Field Notebook

All sample collection activities will be documented in the field log book. The field log book will contain the following information:

1. Sampling location
2. Sample identification number
3. Date and time of collection
4. Depth to water
5. Purging rate and approximate volume purged
6. Field Parameter measurements
7. Type(s) of sample containers
8. Field observations (weather, odor, sheen, etc.)
9. Name of sampling personnel
10. Preservation method
11. Analyses requested

B. Chain-of-Custody Forms

1. The COC record will be used to document the samples taken and analyses requested. Information that field personnel will record on the COC record includes the following:
 - Project name
 - Sampling location
 - Printed name and signature of sampler
 - Sample identification number
 - Sample label number
 - Date and time of collection
 - Sample designation (QA/QC, grab or composite)

- Sample matrix
 - Number and Size of Containers
 - Analyses Requested
 - Signature of Individual Involved with Custody Transfer (including date and time of transfer)
2. COC records initiated in the field will be signed, placed in a plastic "zip-lock" bag and secured inside of the shipping container used for sample transport. Signed air bills will serve as evidence of custody transport between the field sampler and courier as well as the courier and laboratory. Copies of the COC record and the air bills will be retained and filed by the sampler prior to shipment.

TIK/vlr/WGB/PIV
J:\3920\0056\WP\RPT\99_SOP.DOC
3920.0056-MD

FIGURE 1
LIMITS OF FILL MAP

MAY BE VIEWED AT

U.S. EPA REGION 5
77 W. JACKSON BLVD.
CHICAGO, IL 60604-3590

FIGURE 2

CAP THICKNESS AND PERMEABILITIES MAP

MAY BE VIEWED AT

**U.S. EPA REGION 5
77 W. JACKSON BLVD.
CHICAGO, IL 60604-3590**

FIGURE 3

**PROPOSED SUPPLEMENTAL TEST BOREHOLE
AND SHELBY TUBE SAMPLE LOCATIONS**

MAY BE VIEWED AT

**U.S. EPA REGION 5
77 W. JACKSON BLVD.
CHICAGO, IL 60604-3590**